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A NEWSLETTER OF THE FINANCE LAB

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INDIAN INSTITUTE OF MANAGEMENT CALCUTTA

**FRITL**  
Financial Research & Trading Laboratory



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A NEWSLETTER OF THE FINANCE LAB



Indian Institute of Management Calcutta

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Ashok Banerjee, Professor, IIM Calcutta

**Editorial Team**

Partha Ray, Professor, IIM Calcutta

Golaka C. Nath, Senior Vice President, Clearing Corporation of India Ltd.

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Diamond Harbour Road,  
Joka, Kolkata - 700104  
West Bengal  
033 2467 8300

# Contents

2

Editorial

Ashok Banerjee

---

3

Words speak more than numbers

Ashok Banerjee & Ahona Chakraborty

---

8

Merger of Two Regulators

Vivek Rajvanshi & Kshitij Sharma

---

14

RBI Financial Stability Report, June 2015: Some Key Observations

Debjyoti Roy

---

22

**GUEST COLUMN:** Internationalisation of Indian Rupee: Requires effort of an entire generation

Deep N Mukherjee

---



# Editorial

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Everybody is waiting with optimism for the passage of the Goods and Services Tax (GST) Bill in the winter session of the Parliament. It is claimed that GST will be a game changing reform for Indian economy by developing a common Indian market and reducing the cascading effect of tax on the cost of goods and services. Approval of the GST Bill by both the houses of Parliament would also send a positive signal about the seriousness of the present government in enforcing major economic reforms. GST as a concept is well accepted by all political parties and hence it is not a question of whether but when would the law be a reality.

The second issue of Volume 3 of *aṛṭha* has four articles. The first piece attempts to determine early signs of defaults from available public documents of borrowers. The author show that the fine prints in the annual report of companies carry more meaningful information than the numbers in the financial statements. This methodology uses texts of annual reports to detect early sign of trouble. The second piece analyses the RBI's Financial Stability Report which came out in June 2015. The author cannot empathize the significance of the report in the backdrop of financial crisis on developed and emerging economies and hence makes an effort to elaborate and magnify the red flags held up by the report. In the third article, author discusses the need and implications of merging Forward Markets Commission (FMC) with Securities and Exchange board of India (SEBI) on September 28, 2015 which is a first case of merging of two regulators in India. The fourth piece is on Internationalisation of Indian Rupee. The author concludes that the benefits of the process of internationalisation often tends to outweigh the constraints of owning an internationalised currency and for India, it may be beneficial to have a more internationalised Rupee.

You may send your comments and feedback on this issue to [ashok@iimcal.ac.in](mailto:ashok@iimcal.ac.in)

Happy reading!

**Ashok Banerjee**

# Words speak more than numbers

**Ashok Banerjee**

**Ahona Chakraborty\***



Ashok Banerjee is a senior Professor in the Finance and Control group at IIM Calcutta. He takes several advanced courses in Finance like Corporate Financial Reporting, Corporate Finance, Corporate Restructuring, Quantitative Applications in Finance and Trading Strategies. He is also the faculty in-charge of the Financial Research and Trading Laboratory at IIM Calcutta.

\* Research Associate, the Financial Research and Trading Laboratory, IIM Calcutta

Non-performing assets in the balance sheet of Indian banks pose a great threat to the stability of the banking system. Analysts maintain that the actual bad loans in banks' balance sheets is much higher than what is shown. An estimate showed that bad loans of Indian public sector banks stood at a staggering figure of \$41 billion as on 31 March 2015<sup>1</sup>. The Ministry of Finance and Reserve Bank of India (RBI) are seized of the matter. RBI has even released guidelines for early detection of financial stress and timely measures to recover the dues. The present regulatory infrastructure for debt recovery is found to be inadequate in this regard.

Default of borrowers are broadly of two types- circumstantial and wilful. Default arising of change in external environment (e.g., lack of fuel supply for a power plant) is favourably considered by the lenders and if requested, is offered restructuring package. The regulator needs to be very strict with the wilful defaulters. CIBIL, the credit information bureau, maintains database of wilful defaulters (suit-filed accounts) with exposure of Rs. 2.5 million (\$38,500) or above. A report states that more than 7000 wilful defaulters owe about \$10 billion to state-owned banks<sup>2</sup>. RBI has come up with a guideline in 2014 to identify wilful defaulters with a view to 'put in place a system to disseminate credit information pertaining to wilful defaulters for cautioning banks and financial

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<sup>1</sup> <http://timesofindia.indiatimes.com/business/india-business/Public-banks-NPAs-up-at-Rs-2-67-lakh-crore-in-FY-2015/articleshow/48161597.cms>

<sup>2</sup> [http://www.business-standard.com/article/finance/7-035-wilful-defaulters-owe-rs-59-000-cr-to-psu-banks-115101800132\\_1.html](http://www.business-standard.com/article/finance/7-035-wilful-defaulters-owe-rs-59-000-cr-to-psu-banks-115101800132_1.html)

institutions so as to ensure that further bank finance is not made available to them'<sup>3</sup>. A wilful defaulter is said to be one who has defaulted in meeting its payment/repayment obligations even when the borrower has the capacity to pay. Instances of doubtful practice also include fund diversion, siphoning off the funds, and disposal of mortgaged assets. RBI cautions every bank to keep a watch on the payment behavior and fund utilization pattern of its borrowers to identify potential willful defaulters.

The problem with a 'smart' defaulter is that its financial statements hardly signal any imminent trouble. Hence, if one tries to identify early signs of default in these statements, one may not find anything to worry about. We have observed, in one of our prior research, that when a borrower is granted loan on the basis of revised financial statements, probability of default of those borrowers is higher. There are instances of earnings management and 'ever greening' of financial statements. Banks are, therefore, advised to look beyond the numbers to detect any abnormal behavior of borrowers.

The present study attempts to determine early signs of defaults from available public documents of borrowers. Our results show that the fine prints in the annual report of companies carry more meaningful information than the numbers in the financial statements. Our methodology uses texts of annual reports to detect early sign of trouble. Regulators may find our results meaningful and interesting.

## **Methodology**

We have constructed two indices- Fear Index and Sunshine Index. Fear Index would indicate the proportion of negative words used in the Annual Report. The Sunshine Index, on the other hand, would symbolize positivity or optimism with regard to a company. It is hypothesized that fear index of companies prone to trouble or going through turbulent times (e.g., credit default) would be higher.

We have used the annual report of companies as the primary source of information. A careful reading of several annual reports of companies suggest that one can have a reasonable understanding about the operations, challenges, risk and opportunities of a company by going through the Management Discussion and Analysis (MDA) section of the annual report. Auditors

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<sup>3</sup> RBI Master Circular no. DBR. No. CID.BC.22/20.16.003/2015-16

report highlight areas of concern that independent agencies can identify. Similarly notes to accounts section lays down the significant accounting policies followed by a company along with some material information. Therefore, we have used these sections (MDA, Auditors Report and notes to accounts) of an annual report to estimate the two indices. All the tables and numbers that appear in these sections were removed as our methodology focused only on texts.

Bag of words approach is followed to select ‘fear’ and ‘sunshine’ words. The texts from the three sections of an annual report were arranged sequentially and all spaces and punctuations were removed to get smooth flow of text. We have used the open source software R to segregate paragraphs and sentences into words. Certain irrelevant words (e.g., ‘is’, ‘are’, ‘the’), which are repetitive in nature and which do not signify any adjective were removed. Once these irrelevant words were removed, the total number of words in the text went down significantly, thereby improving the proportionate share of fear and sunshine words in the document. The bag of fear (negative) words was constructed manually from the annual reports of ten companies which have defaulted in their debt obligations. Fear words include words signifying pessimism and vulnerability (e.g., ‘distress’, ‘risk’, ‘default’, and ‘fall’). Similarly, the bag of sunshine (positive) words was populated manually from the annual reports of ten cash-rich and profitable companies drawn randomly from the Nifty basket of companies. Some examples of sunshine words include ‘innovation’, ‘superior’, ‘gain’, and ‘opportunity’.

The two indices were finally computed as below:

$$\text{Fear Index} = \sum \text{Fear words} / \sum \text{Total words}$$

$$\text{Sunshine Index} = \sum \text{Sunshine words} / \sum \text{Total words}$$

Once the indices were constructed, the same algorithm was applied to estimate the fear and sunshine indices of 90 default companies and 10 non-default companies.

## **Results and Analysis**

We have obtained the list of default companies from RBI for five years 2010-2014. The listed companies that appeared on the list were separated for this study as complete annual reports were

available for those companies. Relevant texts from the annual reports of the listed companies were used to construct and validate the two indices.

**Table 1: Select Default Companies**

Company	FI(t)	FI(t-1)	FI(t-2)	Average FI	Average SI	Spread (FI-SI)
Aadi Industries Ltd.	28.74%	24.71%	22.42%	25.29%	15.64%	9.65%
Abhishek Corporation Ltd.	24.34%	22.59%	21.21%	22.71%	15.35%	7.36%
Andrew Yule & Company Ltd.	27.78%	27.65%	26.27%	27.24%	13.88%	13.36%
BCL Forgings Ltd.	29.49%	28.07%	27.91%	28.49%	16.30%	12.20%
Celebrity Fashions Ltd.	22.33%	21.35%	18.58%	20.75%	19.22%	1.53%
JCT Ltd.	23.76%	22.49%	19.58%	21.94%	20.67%	1.28%
Kilburn Office Automation Ltd.	31.72%	30.85%	29.67%	30.75%	19.91%	10.84%
Krishna Ferro Products Ltd.	29.08%	28.69%	28.12%	28.63%	16.42%	12.21%
Mysore Paper Mills Ltd.	27.96%	27.07%	21.91%	25.65%	15.88%	9.77%
Niraj Cement Structurals Ltd.	27.38%	22.74%	20.06%	23.39%	19.50%	3.90%
Oriental Trimex Ltd.	27.81%	22.19%	21.62%	23.87%	23.33%	0.54%
Oswal Spinning & Weaving Mills Ltd.	38.43%	27.33%	24.48%	30.08%	17.61%	12.47%
PBA Infrastructure Ltd.	33.33%	32.63%	29.11%	31.69%	18.35%	13.34%
Ramsarup Industries Ltd.	27.62%	25.46%	21.73%	24.94%	16.60%	8.33%
Sangal Papers Ltd.	40.73%	40.59%	33.33%	38.21%	12.60%	25.61%
Silktex Ltd.	30.59%	30.02%	28.81%	29.81%	19.78%	10.03%
Suryachakra Power Corporation Ltd.	26.73%	23.52%	19.34%	23.20%	17.56%	5.63%
TodayS Writing Instruments Ltd.	30.21%	27.26%	26.56%	28.01%	15.52%	12.49%
V2 Retail Ltd.	24.29%	21.76%	17.85%	21.30%	18.42%	2.88%
Yash Papers Ltd.	25.70%	20.06%	19.76%	21.84%	18.38%	3.46%

*Note: FI denotes 'fear index', SI denotes 'sunshine index', the year 't' is the year of default*

We show results of select list of default companies (table 1). These companies reported fear index of greater than 20 in the year of default. It is interesting to note the increasing trend in the value of the fear index as one approaches the year of default. The default premium (spread between fear and sunshine indices) varies widely signifying divergent probability of recoveries from these borrowers. For example, Oswal Spinning and Weaving Mills Ltd has a default spread of about 13%. The EBITDA margin of the company fell by 50% from 8.13% (in the year of default) to 4.02% (2014). Sangal Papers Ltd. also witnessed a fall of more than 20% in the EBITDA margin since the year of default.

We have looked at ten profit making and high market cap companies drawn randomly from the Nifty basket of companies (Table 2). Values of average sunshine index of these companies are higher than the fear index with two exceptions (Infosys Ltd. And Zee Entertainment Enterprises Ltd.). It is interesting to note that one can use these indices to also analyse the degree of uncertainties and challenges that a company is presently facing. For example, Infosys, a debt-free



company, has a pretty high fear index suggesting the challenges that the company has faced in the last couple of years.

**Table 2: Select Companies with high Market Value**

Company	Industry	Average SI	Average FI	Spread (FI-SI)
Asian Paints Ltd.	CONSUMER GOODS	24.33%	22.05%	-2.28%
Bharti Airtel Ltd.	TELECOM	16.36%	13.79%	-2.56%
Cipla Ltd.	PHARMA	16.16%	14.66%	-1.50%
Hindustan Unilever Ltd.	CONSUMER GOODS	23.89%	10.91%	-12.97%
I T C Ltd.	CONSUMER GOODS	21.64%	9.77%	-11.87%
Infosys Ltd.	IT - Software	19.00%	19.88%	0.87%
Reliance Industries Ltd.	ENERGY	20.18%	9.47%	-10.71%
State Bank of India	FINANCIAL SERVICES	15.18%	14.73%	-0.45%
Tata Motors Ltd.	AUTOMOBILE	19.87%	17.05%	-2.83%
Zee Entertainment Enterprises Ltd.	MEDIA & ENTERTAINMENT	12.93%	14.37%	1.44%

*Note: The average of indices is five-yearly average (2010-2015)*

We report here preliminary results of our research. Early signs are quite encouraging. We have plans to make our ‘fear’ and ‘sunshine’ bag of words more robust by updating the list with newer words selected from at least 100 more companies. Our results show that the MDA, Auditors’ Report and the Notes to Accounts sections of an annual report carry meaningful information about the industry, the company and its financial and other challenges. One should not ignore these small prints in the annual report and concentrate only on numbers in the financial statements.

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# Merger of two Regulators

**Vivek Rajvanshi**

**Kshitij Sharma\***



Vivek Rajvanshi, Fellow (IIMC), is Assistant Professor, Finance and Control, Indian Institute of Management Calcutta. His research interest areas are Commodity Futures Markets, Volatility Modelling, Risk Management.

\* Kshitij Sharma is a PGDM student of batch-2016 at IIM Calcutta.

On 28<sup>th</sup> September 2015, Forward Markets Commission (FMC), regulator of the commodity market merged with Securities and Exchange board of India (SEBI), the regulator of equity and corporate bond market in India. This is a first case of merging of two regulators in India. In this article we discuss the need and implications of this merger.

Commodity trading has a long history. Organized commodity trading started by the Chicago Board of trade (CBOT) in 1848. In India, it was started by Bombay Cotton Trade Association in the year 1875. To regulate the commodity market, FMC was established in 1953 under the Forward Contracts (Regulation) Act 1952 (FCRA). FMC was designed to keep a close watch on the risk management, for surveillance in the forward and futures market, to provide guidelines about the dissemination of information and for allowance or withdrawal of the commodity futures in the Indian market.

SEBI was set up in 1988 as a non-statutory body for regulating the securities markets and became an autonomous body in 1992, with full independent powers. However, FMC remained a recommendatory body and the Government of India had all the regulatory powers and exercised them based on the recommendations of the FMC.

The Regulators' role is to protect investors from any misconduct in the market. In both equity or commodity markets, failure of the firms (in terms of not getting the desirable capital from the market at appropriate borrowing rate or not being able to provide returns according to the risk borne by the investors) and commodity futures (failure in terms of efficient price discovery or

delivery of the underlying) are not only disruptive for the investors, but also for the overall economy. FMC and SEBI both have provided basic infrastructure, proper guidelines for the development of the commodity and equity market. Sound regulations ensure the well-functioning of markets and reduce the chance of failure of firms and instruments. However, full protection from failure is not possible. Both equity market and commodity markets have suffered due to certain misconduct of the market participants.

At a time when the merger of FMC and SEBI has been announced, it is important for us to understand what went wrong with the FMC and whether this merger is just a part of the financial reforms. This merger did not just happen out of the blue. It had been under deliberation at various government forums, committees and investors for quite long time. Annexure 1 provides the important events that recommended the merger of FMC with SEBI.

Before starting the discussion we have to look at the progress and concerns observed in Indian commodity market.

Trading in several agricultural/bullion commodities such as cotton, oilseeds, bullion and raw jute attracted a huge participation in trading in 1950s but the Government of India imposed a ban in 1960s in most of the commodities contracts. In 1970s, financial derivatives were introduced in Western markets with advanced state of the art trading mechanism (which included guaranteed clearing and settlement, low transaction cost, low counterparty risk). In 2000-2001, derivative trading in all commodities was allowed in India by the Government. Three national level exchanges were set up in 2003. These exchanges provided more sophisticated and robust trading mechanism for better clearing and settlement process, market monitoring, surveillance and transparency in price discovery process. These national commodity exchanges were encouraged to start contracts on multiple commodities, which increased competition as well as new avenues of trading for the participants. But FMC still played a recommendatory role and the Government of India was the final authority to take regulatory decision based on the recommendation of the FMC. There were several practical problems in terms of the existing infrastructure, such as stock brokers being prohibited to directly participate in the commodity market and in fact they could participate in commodity market only through a separate legal entity. However such bans were removed later.

At this time it was felt that the commodity market needs a regulator which would be more resourceful, empowered and autonomous and which would have expertise to handle imperfections in the markets. At the same time, SEBI was functioning very effectively in regulating the equity market of India. Since inception, SEBI introduced several reforms, new products and best risk management practices for the well-functioning of the Indian equity market.

The purpose of introducing commodity derivatives market and tracing its achievements was always been debatable. Some contracts attracted good trading volumes but the number of deliveries of the underlying commodities were negligible as most of the contracts were cash settled. It was felt that only speculators are trading in these markets and the participation of the hedgers is fairly low. At the same time, high spurge in the prices of some agricultural commodities raised the concerns of the Government regarding the price manipulation of these commodities by the speculators of commodity futures market. As a result, commodity trading in several contracts was banned. This affected the market participants' sentiments badly and increased concerns about transparency and price discovery process. In short, during the period from 2003 to 2013, commodity market witnessed exponential growth but the liquidity, high transaction cost, risk management practices remained worrisome concerns for the market participants and government.

During 2013, the National Spot Exchange limited (NSEL) Scam raised questions about the functioning of the commodity market. NSEL started spot contracts where buy/sell prices were settled on the spot and the delivery of the commodity were provided as per T+2, T+25 and T+35 day convention. In July 2013, the Exchange defaulted in providing the delivery against some of the contracts. Warehouse receipts were issued by the exchange but lack of sufficient physical commodities in the warehouses resulted in a loss of around 5600 crore rupees to the investors. There was no particular body to regulate spot commodity trading and there was total ambiguity regarding the guidelines and rules under which it was supposed to function at that time. This created panic within the system, leading to loss in investors' trust.

During the last two decades, SEBI has undertaken several initiatives, implemented various reforms to improve efficiency and gained high reputation among investors. It introduced the electronic disclosure system to provide better access to information and new corporate governance code has been laid down to increase investors' confidence. Old practices such as transfer of shares in physical format, open outcry system have been replaced by the dematerialized and electronic order book. Book building process for the initial public offerings of shares was started. SEBI ensured

that the Exchanges took adequate risk management measures for the well-functioning of the markets. These reforms helped in gaining investors' confidence. These reforms put a check on scams and no big scam was observed after the 1992 Harshad Mehta Scam.

In short, it has been felt time and again that SEBI has emerged as an expert in controlling equity market and also has sufficient skill set to regulate these markets. On the other hand, FMC still faces shortage of staff and necessary skills. In particular, FMC was not able to take appropriate measures to stop Dabba trading (unauthorized contract trading in commodities in local markets).

In terms of infrastructure, NSE and BSE are two (out of total 23 equity exchanges in India) main leading equity exchanges and cover around 99 percent of trading volume of total Indian equity market. Both exchanges provide nationwide network for trading and allow trading in spot and derivatives of equities, debt and money market instruments. These exchanges have a wide network of more than 1000 brokerage firms. In terms of the speed of transactions these exchanges are among the top 10 exchanges worldwide. National Securities Clearing Corporation Limited (NSCCL) acts as a modern clearing corporation which uses netting by novation for fast and effective settlement and ensures guaranteed clearing settlement of securities, traded at NSE/BSE. In the last decade, a huge amount has been invested by SEBI to develop the best infrastructure, network of brokers and risk management practices in the equity market.

Several gains are expected out of the convergence of FMC and SEBI. Developed infrastructure and institutional base will speed up the pace of the commodity market in India. Because of Financialization of commodity market, both equity and commodity market posits similar characteristics. Therefore, efficient network of equity market will attract more participants which will increase the liquidity in commodity markets and will help in reduction of the transaction cost. With a small incremental cost through economies of scale and scope, several new products in commodity market may be introduced. Instead of having separate settlement and guarantee funds for equity and commodity trade settlement, only one integrated fund can be used. Better and more transparent commodity derivative market will help in improving the price discovery and trading in spot commodity markets as well.

In spite of several advantages of this merger, there are certain concerns as well. Functioning of Commodity Futures market is different from the equity market. In particular, delivery and settlement process in equity markets and commodity markets is quite different. Equity market



instruments are cash settled but commodities futures are delivery settled. SEBI does not have much expertise in this area and requires development of warehouses for making and taking deliveries. There is also an urgent need to develop skills to ensure the quality of the deliverables. At the same time, keeping transaction costs low, is also going to be a formidable challenge.

Given its expertise in the equity market, there are concerns that SEBI will be more focused on bullion and energy sector and not on the agricultural sector, the reason being that bullion and energy sector are more or less financialized products and attract most of the trading volume of the commodity markets. However, a main concern of the policy makers is for the development of the agricultural derivatives market. Risk management and price discovery in agriculture sector in order to protect the farmers and manufacturers' rights and overall value addition in supply chain management is still a challenge. The next challenge for the SEBI is the introduction of new commodity products such as commodity options, commodity indices, commodity index futures which are important for the risk management and to enhance the liquidity in the market. One other important difference in commodity market and equity market is that equity market instruments depend heavily upon the local market condition while commodity derivatives are (in particular, bullion and energy contracts) similar to international commodity contracts. In other words commodity markets are more integrated with international commodity markets than the equity markets. In that case if SEBI is able to make transaction cost lower than other international leading exchanges by infusing more liquidity or through other mechanism such as by implementing proper tax rates, commodity market may take lead in some contracts globally.

If SEBI succeeds in implementing the reforms and in meeting the expectations in the commodity market, we can expect such mergers for other regulators such as PFRDA for pension regulation, RBI for gilt market etc. in the near future.

**Annexure 1: Progress of FMC-SEBI merger since 2002**

Year 2002: The Government of India withdraws prohibition on derivatives trading in commodities

Year 2003: SEBI appointed KR Ramamoorthy committee recommends allowing stock brokers to participate in commodity futures market

Year 2003: Wajahat Habibullah Committee recommends merging FMC with SEBI

Year 2007: Percy Mistry panel suggests bringing the regulation of all securities trading under SEBI

Year 2009: Raghuram Rajan Committee reiterates consolidation of all financial sector regulators under one umbrella

Year 2013: Justice BN Srikrishna-led FSLRC recommended unified regulation

Year 2013: FMC brought under finance ministry following the Rs. 5600 crore NSEL scam

Year 2015: FMC merger with SEBI announced in the budget speech

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# RBI Financial Stability Report, June 2015: Some Key Observations

**Debjyoti Roy**

**(Senior Executive Officer in Research Dept. of CCIL)**

The Reserve Bank of India (RBI) came out with its Financial Stability Report in June 2015. The half yearly report can be seen as a detailed summarisation of the domestic financial sector, its status of health and future prospects. The report critically analyses the events, global or domestic that can create stress in the banking sector, the engine room of the economy. With the global economy in the throes of financial turmoil and the tail events of the financial crisis still causing repercussions at developed and emerging economies around the world on a regular basis, the significance of the report cannot be emphasised enough. This analysis makes an effort to elaborate and magnify the red flags held up by the report.

At the time of publishing of the report, globally, the Greek debt crisis (or rather the return of it) and fears surrounding the Fed interest rate hike presented the biggest volatility trigger mechanism. Recently, however, with Greece accepting the third bailout worth up to 86 billion Euros, the fears have receded but unrest amongst the investors remain; as the IMF remains doubtful on the long term sustainability of the bailout program. Reaction in the Indian markets with respect to the Greek crisis, or the contagion effect, however, had been rather muted.

The risks of the taper tantrum that hammered the Indian rupee and stocks in mid-2013 also appear muted, with the RBI more than prepared to deal with such volatility, should it resurface. To be precise, the worrying factor for the RBI is less of a global factor than the local ones. A strong El Nino has impacted the Indian monsoon season significantly with deficient rainfall across the continent the norm rather than the exception. The impact it would have on the agricultural output and prices can only be estimated with the publication of more data; till now, however, the inflation numbers tell a different story. The domestic economy is still in the throes of a recovery taking shape, which is anything but concrete. The biggest worrying factors for the Central Bank, however, are the stressed balance sheets for the Corporate Sector that are leveraged much higher than comfort levels and that of the Public Sector Banks (PSB), which face the risk of assets turning sour in the face of a hardening of rates.

**Table: Trend in Savings and Gross Capital Formation (GCF)**

Sr. No	Series Name	2011	2012	2013	2014
1	Gross domestic savings (% of GDP)	32.5	29.6	29.6	29.0
2	Gross fixed capital formation (% of GDP)	33.6	31.4	29.7	28.6
3	Gross fixed capital formation, private sector (% of GDP)	26.2	24.4	21.9	NA

**Source: World Bank**

The above table represents the gross savings and capital formation rate in India from 2011 till 2014. The rate of savings has come down from 32.5 per cent in 2011 to just about 29 per cent in 2014. Gross capital formation, which represents the addition to fixed assets and inventories of the economy, is a key indicator to the investment climate in the economy, has also reduced significantly from 33.6 per cent in 2011 to 28.6 per cent in 2014. Private sector participation in boosting the investment climate has also been dwindling steadily, with a contribution rate of 21.9 per cent to GFCF in 2014, from 26.2 per cent in 2011.

Government expenditure as a per cent of GDP has been on a downward trend as well. Due to the emphasis on fiscal consolidation both from the RBI & on the part of the government, expenditures have been curtailed in order to meet the fiscal deficit targets. This has impacted the capex cycle in the economy. Since the financial crisis, a major chunk of Government revenue has been directed to fund subsidies in fuel & fertilizer, as global crude prices have been stubbornly high in contrast to economical downtrend. Government expenditure as proportion to GDP has come down from 18 per cent in 2011-12 to 13 per cent in 2014-15. With the global crude prices on a decline for quite some time now, and Government implementing efficient ways to stop subsidy leakage or cease them altogether, capital expenditure is expected to go up as subsidy levels go down in the current fiscal.

**Table: Trends in the Key Fiscal Figures**

Sr No.	Series	2012-13	2013-14	2014-15*
1	Subsidy on Products**	320953	330022	338781
2	Capital Expenditure**	167753	168478	170543
3	GDP**	9988540	11345056	12541208

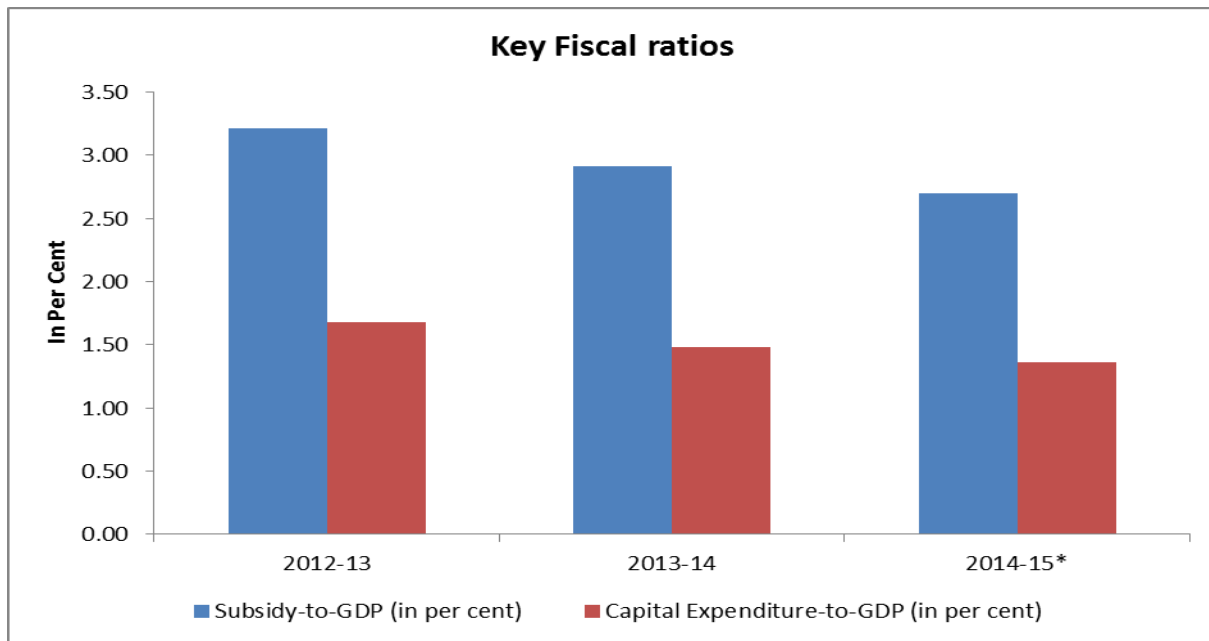
4	Subsidy-to-GDP (in per cent)	3.21	2.91	2.70
5	Capital Expenditure-to-GDP (in per cent)	1.68	1.49	1.36

**\*Budgeted Estimate (in Rs Crores)**

**\*\*At Current Prices**

**Source: Union Budget & MOSPI**

**Chart: Quality of Fiscal Adjustment down the years**



**Source: Union Budget & MOSPI**

### **Soundness & Resilience of Banks in India**

**Capital Adequacy Ratio (CAR):** The capital adequacy ratio, also known as the **Capital to Risk (Weighted) Assets Ratio** refers to the ratio of a bank or financial institution's total capital to the risk it is exposed to. It is a barometer for the health of a financial institution, as well as the entire financial system as it can indicate a bank's ability to absorb losses. The value of the assets is weighted by the individual risk weights assigned to each level of financial assets controlled by the bank or financial institution. These weights are assigned in accordance to the recommendations set by the Basel Committee for Banking Supervision. In accordance with the Basel III regulations, which constitute the latest regulatory framework to be followed by a majority of the participants in the global financial



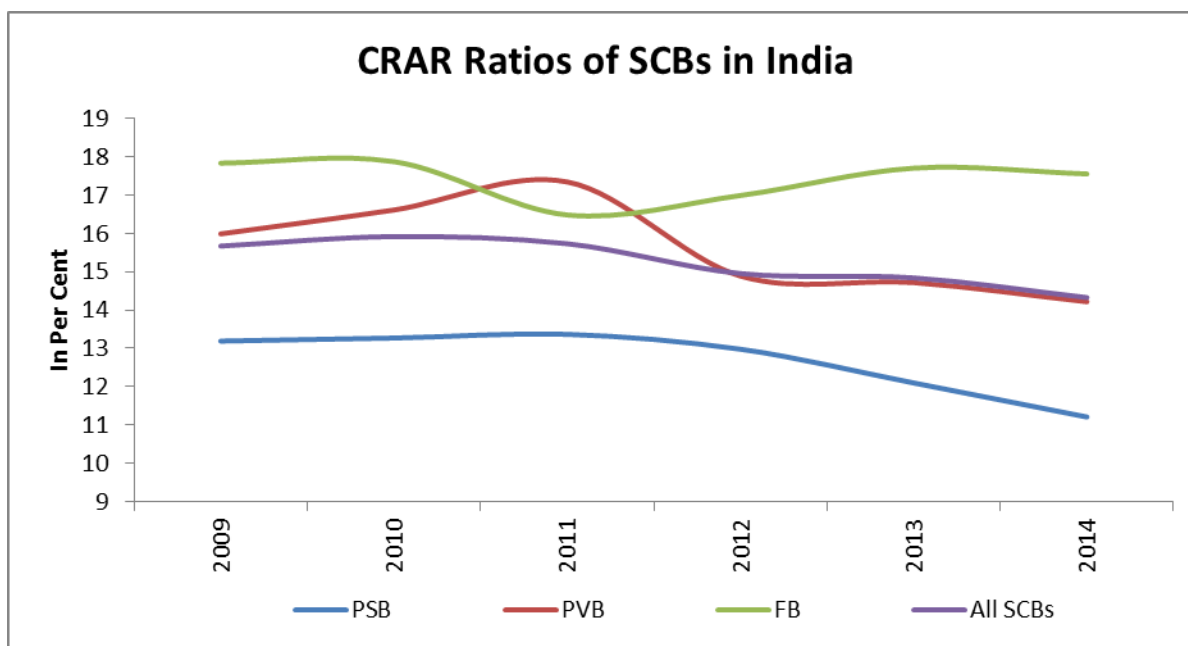
system, the RBI mandated that the minimum CRAR required to be maintained by the scheduled commercial banks in India (SCBs) is 9 per cent at present. However, as per RBI requirement, the SCBs are required to maintain a CRAR much higher than the minimum requirements.

**Table: CRAR of SCBs in India (in per cent)**

Year	PSB	PVB	FB	All SCBs
2009	13.19	15.99	17.83	15.67
2010	13.27	16.61	17.87	15.92
2011	13.37	17.34	16.48	15.73
2012	12.98	14.89	16.99	14.95
2013	12.10	14.72	17.70	14.84
2014	11.21	14.22	17.55	14.33

**Note:** Foreign Banks with limited operations have very high CRARs due to limited lending, or recently launched operations. These FBs have been eliminated while calculating averages.

**Chart: CRAR of SCBs in India**



**Note:**

Most of the Banks started reporting Basel III recommended CRAR ratio in 2014. Prior to that, Basel II recommended CRAR were reported by most or all banks

**Source:** RBI

The foreign banks (FBs) and the private sector banks (PVBs) have historically maintained a CRAR much above the stipulated requirement by the RBI. This might be due to the experience learned from the previous financial crisis, which is still creating ripple effects in the global economy, or due to tighter internal regulations imposed to prevent another setback. But what is worrying, and has been promptly emphasised by the RBI in its Financial Stability Analysis, is the declining asset quality and soundness of the public sector banks (PSBs). Their CRAR reduced by 1.8 percentage points between March 2011 & March 2015, which was the largest within all SCBs, followed by FBs at 1.5 percentage points, & PVBs at 1.1 percentage points. However, of late there has been an effort in improving the capital level of the PSBs, which is evident by the increase in Tier I Leverage Ratio from 6.3 per cent to 6.6 per cent between September 2014 and March 2015. Tier I Leverage Ratio is the ratio of Tier I capital to total assets, which is the credit equivalent of off balance sheet items. According to Base III regulations, Tier I leverage ratio should be a minimum of 3 per cent.

The gross non-performing advances (GNPAs) of SCBs as a proportion of total advances increased from 4.5 per cent to 4.6 per cent between September 2014 & March 2015. According to the RBI guidelines on restructuring of assets, a non-performing asset is one which ceases to generate income for the bank. More specifically, it is a loan or an advance for which interest and/or principal amount remain overdue for more than 90 days with respect to term loans & discounted bills, out of order for 90 days or more for overdrafts, which indicates no or inadequate credits for the said period against interest amount debited, and mark-to-market receivables for derivative transactions being overdue for 90 days or more. For agricultural loans, if the instalment of interest or principal remains unpaid for two crop seasons for short duration crops, and one crop season for long duration crops, the loan or advance is to be termed as an NPA.

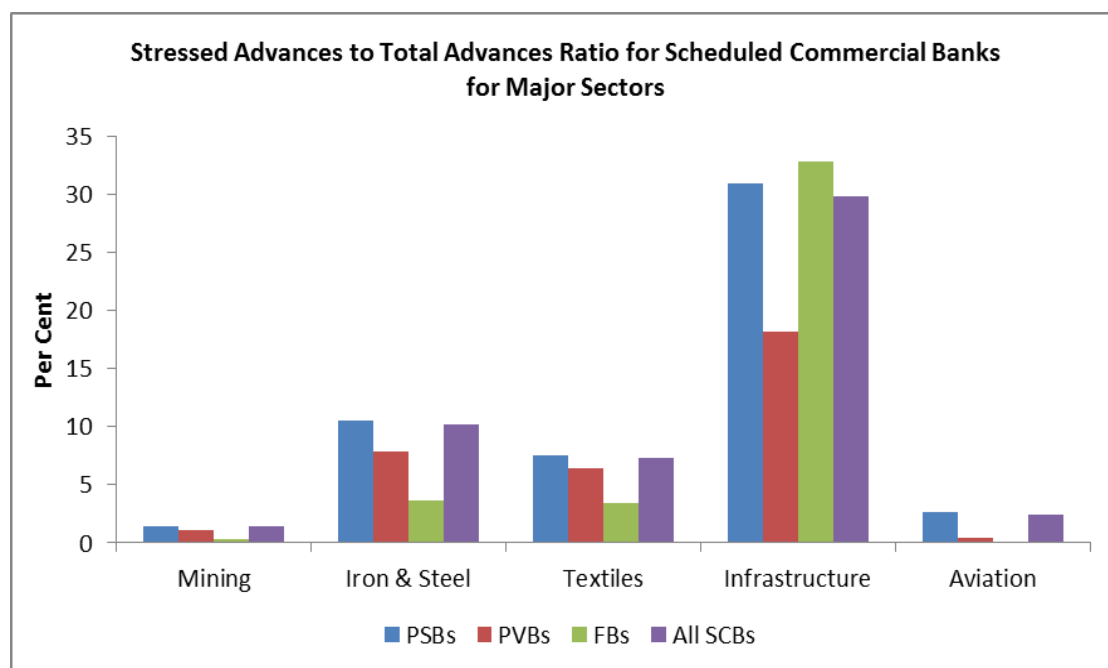
The stressed advances of the SCBs also increased to 11.1 per cent of total advances as on March 2015, from 10.7 per cent. Stressed advances are GNPAs plus restructured standard advances of a bank. It is a useful measure of asset quality for the banks. Once again, PSBs were at the forefront, with 13.5 per cent stressed advances of the total advances, as compared to the meagre 4.4 per cent in the case of the private banks.

Highlighting the debacle of the manufacturing sector in the economy, the industrial sector recorded the highest stressed advance ratio of 17.9 per cent as of December 2014, followed by the services sector at 7.5 per cent.

Elaborating on the stressed asset scenario on a sectoral level, we observe that the stressed advances ratio, the ratio to the amount of loans or advances under stress with the total assets or advances of the banks, has seen an uptick in the two primary drivers of the economy, namely industries & services. Since March 2011, the stressed advances as a ratio of total advances for banks have increased from around 7 per cent to nearly 20 per cent in December 2014. Similarly the stressed advances ratio of the services sector nearly doubled from around 3 per cent in 2011 to 7.5 per cent in December 2014. The retail sector, on the other hand has commendably contributed to reduce their stressed advances ratio for banks to 2 per cent in December 2014. It must be noted that private banks command the maximum share of retail loans in their portfolio at 27.7 per cent, as against 17.1 per cent for PSBs. Thus it can be said that the retail sector has contributed significantly in reducing the stresses assets proportion for private banks, resulting in their commendable 4.4 per cent stressed advances ratio.

Within industry, infrastructure and iron & steel had the highest stressed advances ratio of 29.8 per cent and 10.2 per cent among all SCBs respectively. PSBs had the maximum exposure to these subsectors taken together, and consequently, their stressed advances ratio for these stood at 30.9 per cent and 10.5 per cent respectively. Foreign banks though had maximum exposure to stressed advances in infrastructure at 32.8 per cent. Five sub-sectors, namely Mining, Iron & Steel, Textiles, Infrastructure & Aviation constituted 51.1 per cent of stressed advances for all SCBs. For PSBs, the share of stressed advances for these five sub sectors out of all SCBs was 53.1 per cent.

**Chart: Contribution of the stressed sectors to the stressed advances (in per cent)**



**Table: Contribution of the stressed sectors to the stressed advances (in per cent)**

S.No	Sectors	PSBs	PVBs	FBs	All SCBs
1	Mining	1.4	1.1	0.3	1.4
2	Iron & Steel	10.5	7.9	3.6	10.2
3	Textiles	7.5	6.4	3.4	7.3
4	Infrastructure	30.9	18.2	32.8	29.8
5	Aviation	2.7	0.4	0.0	2.4
<b>Total</b>		53.1	34.1	40.0	51.1

**\*As of December 2014**

### **Resilience of the Banking System as tested through the Stress Tests**

Stress testing generally involves assuming enhanced risk in the system through simulation, and the reaction of the system as analysed through its primary indicators. The RBI conducted a stress test at the system, bank-group and sectoral level to gauge the resilience of the Indian banking system. According to the outcome, GNPA ratio, particularly at the public sector banks may rise significantly if the system comes under further stress in the form of credit tightening. At the sectoral level, engineering, iron & steel and cement sectors, which have the highest NPA ratios at present, may see them deteriorate further in the face of heightened stress levels.

In terms of estimated loss provisions in the face of credit risk scenarios, PSBs are likely to fall short of sufficient provisions to meet their expected losses. Expected Loss is the amount of loan that a bank can expect to be at risk if the firm or individual it lends to, defaults. The current provisioning level for expected losses (EL), as percentage of total advances for PSBs was 3.3 per cent, whereas for PVBs and FBs, they were 2.0 per cent and 3.7 per cent respectively, at and-March 2015. These were above the projected levels as per the baseline stress scenario; however, they were below par as under enhanced stress scenarios. In total, 16 out of the select 60 banks chosen for the analysis were found to have inadequate levels of capital provisions in the face of adverse stress levels, down from 20 banks as observed in the December 2014 analysis of the Stability Review by the RBI.

Analysis of an impact of interest rate risk by means of a parallel upward shift of the yield curve by 2.5 percentage points was perceived to be manageable at the system level, with a capital loss of 8.2 per cent. However, the upward shift would have an adverse impact on the HTM portfolio of the banks if marked-to-market, resulting in the CRAR getting reduced by 276 basis points. This would

consequently impact 24 of the 60 banks in the sample, whose CRAR resultantly falls below 9 per cent. In the previous FSR in December 2014, the downward impact was 261 bps. Interestingly, an upward movement of the yield curve would impact foreign banks more than the public and private banks, due to larger exposure on their trading books. A downward reversal in the yield curve movement by the same magnitude reduced the income (as a percentage of profit before tax) on the banks' books by 29 per cent.

The performances of the Scheduled Urban Co-Operative Banks (SUCBs) in the face of stress tests were also worrisome, as corroborated by the RBI data. Although the provisioning coverage ratio, which is the ratio of the provisioning for bad loans kept aside by the banks to the gross NPA of the banks, improved considerably to 59.7 per cent as of March 2015, from 52.4 per cent in September 2014; the impact of an extreme scenario on the banks' balance sheets appeared significant, with 25 out of 50 banks not able to meet the required CRAR levels. Liquidity risk also appeared to impact the SUCBs under the hypothetical stress scenarios of 50 per cent and 100 per cent increase in cash outflows, in 1 to 28 days' time bucket, with the assumption of no cash inflows during the period. 26 out of 50 banks would be significantly impacted and be under liquidity stress under the 50 per cent scenario, and the number would increase to 35 under the 100 per cent scenario.

The non-banking financial companies (NBFCs) in India are subject to a higher CRAR (15 per cent) requirement according to the guidelines laid down by the RBI. The stress test results were impressive at the system level, with the CRAR level declining to 26.6 per cent, from its present level of 27.3 per cent (as of March 2015) under the extreme stress scenario of a 3 standard deviation decline in its GNPA. However, at the individual level, the situation deteriorated a bit, with 19 per cent of the NBFCs not being able to comply with the minimum CRAR level under the worst case scenario of a 3 SD change in GNPA.

Finally, a contagion analysis was carried out by the RBI with the systemically important banks in the Indian financial system to estimate potential losses under the three hypothetical stress scenarios triggered by insolvency, illiquidity and interplay of the first two scenarios respectively. Taking the banks with the highest stressed assets as the trigger banks, the analysis however, does not point out to a systemic failure in the face of any individual banks' failure. However, taking the top ten systemically important banks as trigger banks, the analysis does show that there is a potential for a massive contagion effect in the system.

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**GUEST COLUMN**

# **Internationalisation of Indian Rupee: Requires effort of an entire generation**

**Deep N Mukherjee**



Deep N Mukherjee is currently Director, Corporate Ratings with India Ratings & Research (Previously called Fitch Ratings India). He heads corporate ratings for Western India. He has over 11 years of experience in Risk Management and Credit Assessment. Prior to his current role, within Fitch he was in structured finance team. Prior to his organization he was with American Express where he was heading the Institutional Risk Management Team focusing on quantitative risk management. He is also a visiting faculty in finance with IIM Calcutta. He has done his graduation in engineering from IIT, Kharagpur (BTech, 1999) and has obtained his management degree from IIM Lucknow (PGDM 2002).

## **Introduction**

Lot of countries including the prominent emerging nations such as China and India have aspirations of ‘internationalising’ their currency. While in general there is a broad consensus on what an ‘internationalised’ currency may look like still no precisely defined framework exists. Of course, all internationalised currency has aspirations of entering into that ‘Hall of Fame’ which is IMF’s Special Drawing Rights (SDR) basket. Currently there are four currencies in the SDR basket (USD, Euro, Pound and Yen) and going by IMF’s latest press release Chinese Renminbi may become the fifth currency in the SDR basket.

However, during the process of currency internationalisation the country may benefit from the journey itself. In order to internationalise its currency a country needs to take several measures and show palpable results of the same. The global market participants starts acknowledging those developments by showing lesser resistance to accept its currency as payments or subscribing to securities denominated in that currency. As transaction volumes increase the cost of transacting in the currency reduces and over decades the currency assumes international stature.

The benefits of the process of internationalisation often tends to outweigh the constraints of owning an internationalised currency. Thus countries having highly internationalised currencies tend to have more stable domestic economies to the extent the foreign currency (FX) risk is mostly mitigated. For India, whose economy has a high exposure to foreign currency risk, it may be beneficial to have a more internationalised Rupee. Of course more systematic and well-coordinated

planning and efforts are required so that hopefully over next two decades Indian rupee becomes more internationalised comparable to at least countries such as Mexico and China.

### **What Does Internationalisation of a currency mean?**

The internationalisation of a currency is more a matter of degree as opposed to a binary state of internationalised or not internationalised. A currency with very high level of internationalisation would have even non-residents trying to own the currency, or its currency getting used in invoicing global trade between two entities none of whom are residents of the country. Likewise, other sovereigns or non-resident companies issue securities denominated in such internationalised currencies and the place of issuance may very well be another different jurisdiction altogether.

The closest one comes to a ‘formal’ description of ‘internationalisation’ is the criteria which the International Monetary Fund(IMF) uses to choose the basket of currencies in Special Drawing Rights(SDR).The two criteria are the volume of usage of the currency in international trade as well as ‘free usability’.

Free usability is determined by actual international usage and trading of the currency in market exchanges. While one may often lead to the other but it is not a given. For instance China met the export criterion even in 2010 when the previous SDR review was held. However, it is the free usability criteria where China struggles. As per the latest data from Bank of International Settlements, with respect to factors used to determine free usability, currencies such as Swiss franc, Australian dollar and Canadian dollar are ahead of the Yuan.

The free usability criteria directly impacts the depth of markets with respect to the currency and to the extent liquidity of the market and cost of hedging the risk associated with that currency. The lower the cost of hedging higher is the usability of the currency and thus higher the degree of internationalisation.

***Free Usability and Currency Convertibility:***One often, and for good reason, gets an impression that if a currency is fully convertible. However, even IMF in its definition of free usability highlights the aspect that “The concept of a freely usable currency concerns the actual international use and trading of currencies, and is different from whether a currency is either freely floating or fully convertible. “

Of course in absence of full-convertibility the cost of transaction in the currency tends to be higher there by reducing its attractiveness with respect to currencies which have full or relatively fuller convertibility. If the composition of global foreign exchange reserves across countries are considered as a proxy for free usability of currency then US Dollar(64% of global reserves), Euro(20.5%) are the most freely usable followed by Pound Sterling(4.7%) , Japanese Yen(3.8%), Canadian Dollar(1.9%), Australian Dollar(1.9%) and Swiss Franc(0.3%). The numbers are based on latest information available in Currency Composition of Foreign Exchange Reserve (COFER). Each of these currencies are of course fully convertible. Besides the sovereign involved have very high credit rating signifying highly stable sovereigns with a strong ability to handle crisis.

US, Canada & Australia, Sweden are all rated AAA. UK rated AA+, while Japan because of series of downgrades in the last decade is currently at A. These are of course all high investment grade ratings globally. Euro zone is of course a mix and match of countries which range all the way from AAA to CCC, however majority of the countries are rated at or above AA rating category.

While the COFER data does not give further details beyond the seven currencies which account for ~97% of global allocated reserves, how by referring to the BIS' Triennial Survey of Central banks the author would tend to conclude that Mexican Peso along with Chinese Yuan would also be in the top 10 currencies as per this criteria. While Peso is fully convertible the yuan is not fully convertible with managed float.

Among the other top 20 'internationalised currency' South Korea, Russia, Brazil and India have partial convertibility with managed float. However other currencies such as Hong Kong dollar, Singapore Dollar, Turkish Lira, South African Rand all are free float. So one may conclude that full convertibility helps to internationalise but if the country handles a substantial portion of global trade even a currency which is not fully convertible can break into top 10 international currencies.

### **Benefits currency internationalisation**

Countries which have severe trade imbalance either heavy duty net importers (or for that matter heavy duty net exporters) tends to benefit more if their domestic currency is internationalised. The key reason being that it tends to mitigate the FX risk inherent in such large trade imbalance. An internationalised currency allows the domestic companies to transact in their own currency, while their foreign trading partners show higher acceptance of assuming the FX risk with respect to this

internationalised currency. The reason why the foreign trading partners may be willing to accept this FX risk is because they consider the country with internationalised currency to have a stable economy, with a highly developed institutions and rule of law. Besides the FX risk can be easily hedged (low cost of hedging) because the FX market with respect to the internationalised currency is deep and liquid

Further domestic companies in countries with internationalised currencies would have access to international capital markets for raising capital without incurring FX risk. A diversified and larger funding base tends to reduce the cost of capital. However, if the company's options were limited to raising capital only from their domestic market the price will be higher. Of course, they could raise international capital in other currencies, but post hedging for FX risk there would be hardly, if any benefit.

While the above may be the prominent benefits of currency internationalisation to the private sector, it provides a perverse benefit to the government by allowing it to finance its fiscal deficit by issuing government treasuries in domestic currency to foreign investors. This is on similar lines to what US government does to finance its deficit.

### **A very brief history of currency internationalisation**

At the start of 20<sup>th</sup> century US was something of a very promising emerging nation, but the US Dollar was hardly internationalised. During that period as per records British pound reserves were 43 percent of total official reserve holdings, French francs 11 percent, and German marks 10 percent. In 1913 sterling accounted for 38 percent of total holdings, francs and marks 24 percent and 13 percent.

In response to a financial crisis (well NY Stock exchange fell 50% over the three week period and guess what? Bankers panicked!!) in US, a study group called National Monetary Commission was formed in 1907. This commission, among other things were tasked to find a structural fix to the rampant financial crises which plagued US financial system in those days. Based of the recommendation of the Commission the Federal Reserve Bank came into being in 1913. Relatively higher level of financial/monetary stability followed.

By mid 1920s US Dollar started overtaking the British Pound. Of course there was a brief set back to US Dollar in 1930s but by the end of World War II US Dollar assumed the same prominence that Pound had at 1900. Thus almost six to seven decades after US GDP actually overtook UK GDP, did the US currency comprehensively took over the Pound.

For a couple of decades after the World War II, the pound remained the second most prominent global currency though its gap with the USD kept on increasing. However, the second slot was taken over by Deutsche mark during the 1970s.

Formal studies of currency internationalisation picked up speed in 1960. In 1969, IMF introduced a unit of account called Special Drawing Rights (SDR). At the onset SDR was pegged to the gold content of U.S.Dollar. However, subsequently when US Dollar was detached from the value of gold, SDR value continued to remain linked to gold. Then 1974, SDR was reconstituted and its value was derived from the value of 16 currencies which had the highest importance in terms of global trade during that period. However, the basket of SDR was again reconstituted in 1981 and this time the basket had just five currencies belonging to the group of five industrial countries namely US, Japan, West Germany, UK and France.

Currently, of course it has just four currencies since French Franc and Deutsche Mark was replaced by Euro. Chinese Renminbi looks all set to be entering the SDR basket as the fifth currency. While China is all set to enter the SDR basket, Indian Rupee does not present itself with any such opportunity. Of course if SDR basket is ever increased to a basket of 16 currencies as was the case prior to 1981 then India may have some chance of becoming a 'certified' internationalised currency.

### **Indian Rupee Became Less Internationalised since 1960**

Indian rupee was more internationalised for around two decades post its independence than may be the case currently. The Indian rupee was the official currency of Kuwait, Qatar, Malaysia and Emirates. The Indian government specifically introduced the 'Gulf Rupee' in 1959 for circulation in these countries. From 1960s some of these countries (Kuwait: 1961; Bahrain: 1965) started to introduce their own currencies. However when India devalued its rupee in 1966 the other gulf countries also introduced their own currencies.

The Indian rupee was regarded as an official currency of other countries, including Kuwait, Bahrain, Qatar, the Trucial States (United Arab Emirates (UAE) since 1971) and Malaysia in previous times. The Gulf rupee, also known as the Persian Gulf rupee, was introduced by the Government of India as a replacement for the Indian rupee for circulation.

Currently Bhutan and Nepal peg their currency against the Indian Rupee. Besides Zimbabwe recognises Indian rupee as a legal tender that can be used in its jurisdiction.

### ***How is Rupee placed in terms of Internationalisation?***

As per the latest available BIS Triennial Survey (2013) Indian rupee constitutes 1% of global FX trade and is ranked 20<sup>th</sup>. Chinese yuan which is ranked 9<sup>th</sup> constitutes 2.2% of global FX trade and is following Mexico(8<sup>th</sup>) which has 2.5% of global share of FX trade in its currency Peso. Indian currency has made significant progress since INR's share in global FX trade was around 0.1% in 1998 and it reach 1% in 2007 and has hovered around that level since then.

The volume of INR based FX transactions is closely expected to trace the growth of India's trade with global partners as well as investment in Indian securities. IFC has recently issued off bonds denominated in INR. While these are steps in the correct direction but given the BBB- rating of India Indian issuances are unlikely to find wide spread acceptance is forex reserves of a lot of currencies.

India has only recently started a more focussed policy of inflation targeting. If the policy continues for more than on business cycle and becomes institutionalised approach then that would go a long way in building confidence of international investors. Likewise if India's bond markets finally takes off along with robust derivatives markets it will add to the global attractiveness of the rupee. Assuming all these happens as per plan then possibly over 15 -20 years the rupee will be more internationalised. Of course in the meantime one hopes that other changes restricts fiscal deficit so that India's credit rating also moves up significantly from the current rating level of BBB-.

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