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A NEWSLETTER OF THE FINANCE LAB

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Indian Institute of Management Calcutta

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Editorial

This issue focuses on Financial Stability Report released by the Reserve Bank of India in this month. Asset quality of Indian banks is a major concern for the policy makers, the central bank and even the investors. Investors fear a major downgrade in bank stocks due to massive pile up of bad loan in the books. The recent report of Mehta Committee provides no new idea for handling the NPA menace. The present issue does not carry the series on startup valuation. The series will be resumed from the next issue.

The Reserve Bank of India, in its latest Financial Stability Report, highlights ‘pro-cyclical’ behaviour of mutual funds as consumers of liquidity and also mentions that Indian and foreign banks have offered generous credit lines to mutual funds when interest rate views are bearish. The first article tries to look at these findings of the RBI more closely. In the second piece, the author discusses the continuing crisis of non-performing assets of the Indian banking sector and concludes that the more things change, the more they stay the same. The third article deals with the FIFA Football World Cup and the author analyses the direct impact of such event on host economy and its indirect impact on others. The fourth article deals with the assessment of a bank’s performance and concludes that banks and regulators can take steps to vastly improve disclosure of asset quality as it’s a key indicator to measure banking performance. In the fifth article, the author looks into the idea of Competition, Computation and Regulation in the market place. The last piece is a note on Microsoft’s acquisition of GitHub

The *Market Watch* section in this issue deals with the shock to Small and Midcap Indian Markets recently.

You may send your comments and feedback on this issue to ashok@iimcal.ac.in

Happy reading!

Ashok Banerjee

Pro-cyclical Behaviour of Indian Mutual Funds

Ashok Banerjee and Bobbur Abhilash Chowdary



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The Reserve Bank of India (RBI), in its latest (June 2018) Financial Stability Report, highlights ‘pro-cyclical’ behaviour of mutual funds as consumers of liquidity. The Report also mentions that Indian and foreign banks have offered generous credit lines to mutual funds when interest rate views are bearish. The findings of the RBI have two implications: (a) mutual funds move away from G-sec instruments during bearish interest environment and invest in ‘spread products’; (b) credit lines from banks help mutual funds manage their liquidity risks during bearish interest regime. The present article tries to look at these findings of the RBI more closely.

Global mutual funds tend to show similar pro-cyclical behaviour during financial crisis, reducing their exposure to countries during bad times and increasing it when conditions brighten. This is particularly true for open ended mutual funds. There are several motivating factors for such pro-cyclical behaviour of institutional investors. Primary among them is liquidity needs. During good days, investors underestimate the need for liquidity buffer and hence invest most of the funds in risky and illiquid assets to boost short term performance. However, during liquidity crisis, fund managers tend to quickly sell risky investments to shore up cash. In case of Indian mutual funds, RBI asserts, managers were not required to sell risk assets to pay for redemptions. Banks provided them the required liquidity. Therefore, Indian mutual funds continued to hold onto risky assets (spread products) in spite of liquidity pressure from the investors, thanks to bank credit lines. Another important motivating factor is the principal-agent problem. Managers, as agent, are answerable to asset owners (principal) and therefore the agents try all possible tricks to keep principal in good humor. The problem for the Principal is she cannot directly monitor the operations of the managers. Benchmarks and annual targets are common monitoring tools used by the Principal to evaluate the performance of agents. Agents, therefore, try to show better performance by investing in risky but high-yielding assets. This creates a moral hazard problem. Pro-cyclical behaviour of an individual investor can be rational if the investor wants to exit early. However, if many investors want to exit at the same

time, such liquidity pressure may trigger a pro-cyclical behaviour of the managers leading to significant asset volatility. We try to find out the motivation of managers of Indian mutual funds for the pro-cyclical behaviour.

Indian Mutual Fund Industry

Mutual funds play a very important role of channeling household savings into capital markets and thereby help retail investors diversify their risks. The Indian mutual fund industry has a total AUM (Asset Under Management) of Rs. 21.4 lakh crore (\$330 billion) as on March 31, 2018. About 90% of the AUM is invested in open ended funds; about 9% in closed ended funds and the balance in interval funds. Interval funds are those which can be bought and sold only during a specified time interval, say 15 days. Over the last decade, the AUM of the Indian mutual fund industry has increased four-folds. The category-wise breakup of AUM is provided below (Table 1). Income-generating assets constitute 37% of the total AUM followed by equity.

Table 1: AUM of Indian Mutual Fund Industry as on March 31, 2018

	AUM (INR crore)	Percentage
Income	785553	37%
Infrastructure Debt	2468	~1%
Equity	669207	31%
Balanced	172151	8%
Liquid/Money Market	335525	16%
Gilt	11404	1%
ELSS – Equity	80583	4%
Gold ETFs	4806	~1%
Other ETFs	72888	3%
Fund of Fund investing overseas	1451	~1%
Total	2136036	100

Source: Association for Mutual Funds in India (AMFI)

If one looks at the type of investors in Indian mutual funds, one may observe (Table 2) retail investors love equity funds. Corporate investors, on the other hand, prefer non-equity funds.

Table 2: Indian Mutual Fund Industry: Investor Types

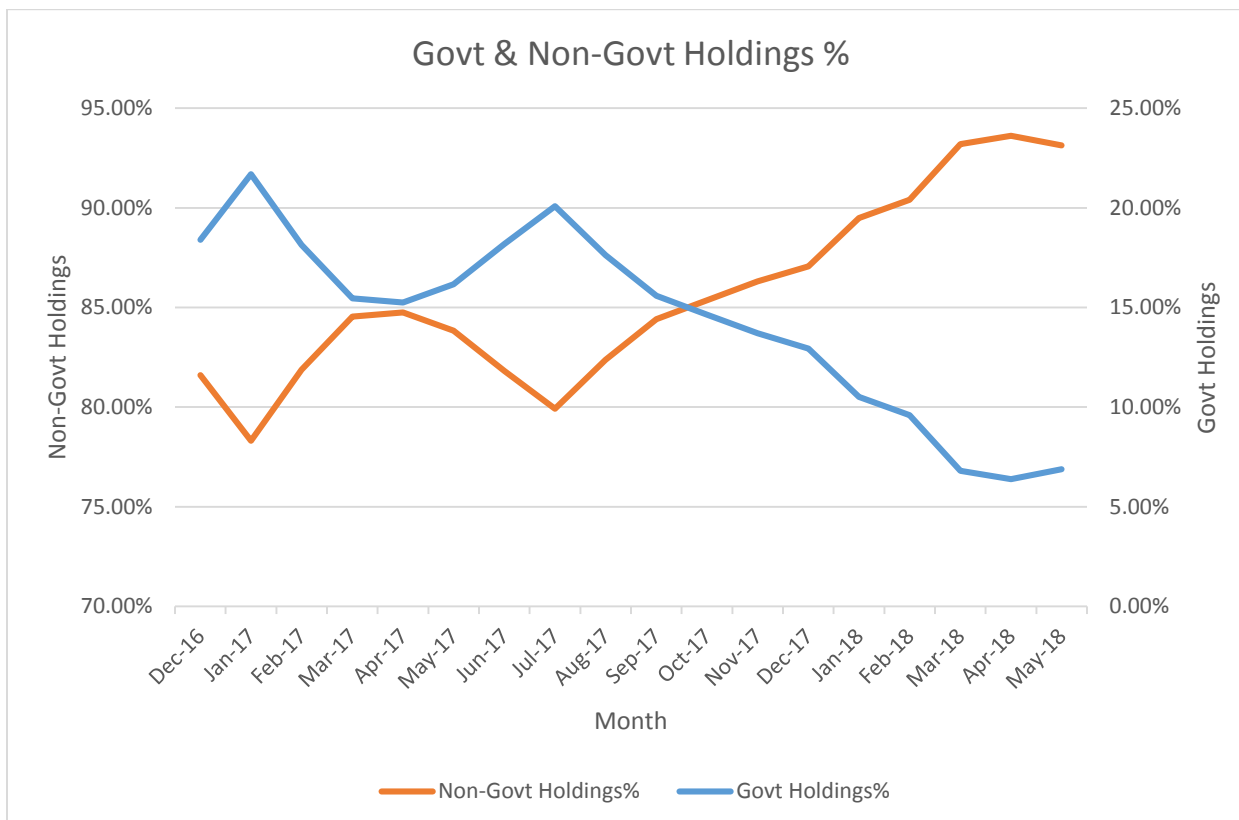
Investor Type (figs in INR crore)	Equity	Non-Equity
Corporates	1,87,538	7,41,890
Banks/FIs	2,294	20,297
FIIIs	6,613	5,539
High Net worth Individuals	3,54,482	2,88,083
Retail	4,42,417	86,882
Total	9,93,345	11,42,691

Source: Association for Mutual Funds in India (AMFI)

Pro-cyclicality

In order to examine the behaviour of fund managers, we use AMFI (Association of Mutual Funds in India) classification of funds. We consider funds which are domiciled and registered for sale in India leaving out ELSS, FoFs (Fund of funds), Gold ETF, Growth, and Other ETFs. This selection criterion leaves us with 5029 funds. We further remove closed-end funds as these do not have any redemption pressure and therefore do not need any bank credit lines as argued by the RBI. This leaves us with 519 funds. Of the 519 funds, we focus only on bond and money market funds and leave out mixed asset funds. Our final sample stands at 409 funds (292 Bond and 117 Money market). These 409 funds include 13 Floating rate funds, 58 Gilt funds, 268 Income & Balanced funds, and 70 Liquid & Money market funds. The Assets Under Management (AUM) of these 409 mutual funds has increased consistently over the past 18 months (December 2016-May 2018), from Rs. 5,06,952 crores (\$78 billion) to Rs. 9,63,557 crores (\$148 billion) at a monthly compounded growth rate of 3.6%. However, if one looks at the distribution of such holdings, it is found that holding of government papers was generally on the decline since January 2017, whereas non-government holdings was continuously rising over the past 18 months (Figure 1). Of the total fixed-income instruments, government bond holdings, which was about 20% of total holdings, declined sharply to only 7% in May 2018. We know that when there is a change in the interest rate, bonds with lower coupon are more sensitive to interest rate risk.

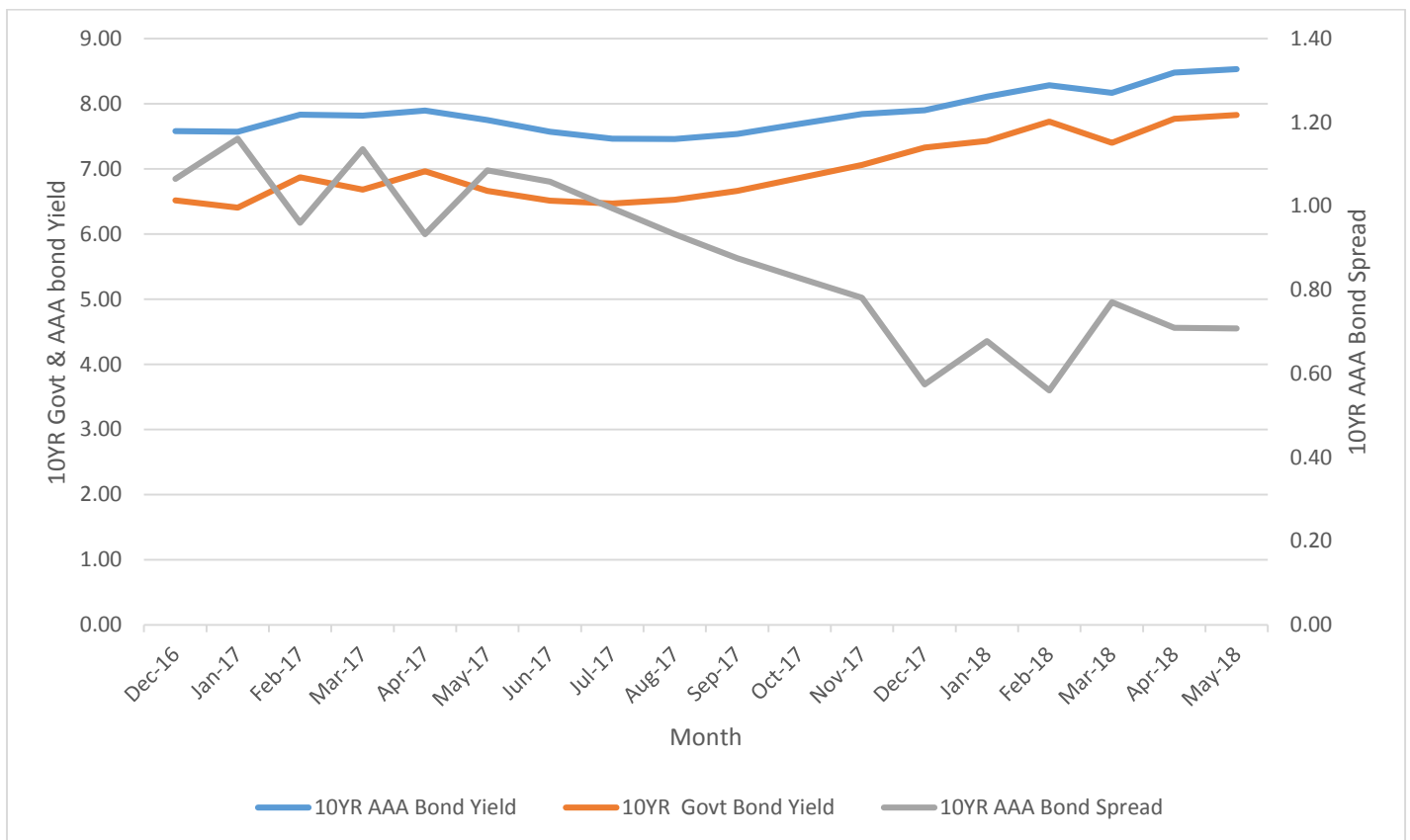
Figure 1: Holding of Government and Corporate Bonds



Source: Computed from holdings data taken from Lipper for Investment Management

What could be the reason for such a behaviour? The RBI report suggests that a bearish outlook for interest rates could be the culprit. The spread between 10-year Government Bonds and AAA-rated bonds of same maturity has fallen from 106 basis points to around 70 basis points in the past 18 months. This implies that yield on government bonds has increased more than that of corporate bonds during this period (Figure 2). Generally, the liquidity of corporate bonds in the secondary market is lower compared to government bonds. For example, the rupee volume of trading in corporate bonds in Indian capital markets was Rs. 145786 crore (\$22 billion) in May 2018, which is only a quarter of the outright trading volume in G-Sec during the same period¹.

Figure 2: Yield Spread



Source: Bloomberg

Therefore, larger exposure to corporate papers creates illiquidity in the portfolio. The RBI asserts that ‘liquidity insurance by financial intermediaries (*banks*) allow asset managers to load on yield-enhancing illiquid investments.’² The report shows significant increase in bank credit lines to mutual funds since June 2017. We looked at the actual borrowings (and not credit lines) by Indian mutual funds and found that highest borrowing (as a percentage of total AUM) of 409 (debt and money market) funds was only 6% during the past 18 months

¹ Corporate bond trading volume from SEBI and Government bonds outright trading volume form CCIL

² Financial Stability Report June 2018 page 17

(Figure 3). In terms of magnitude, the highest borrowing was Rs. 59,015 crores against an AUM of Rs. 950,044 crores. We have also looked at bank-affiliated mutual funds separately and found similar borrowing pattern. So, the banks were offering credits to most of the mutual funds, whether affiliated or not. Further, there is no significant difference in the proportionate holdings of government and corporate bonds between bank-affiliated and other mutual funds.

Figure 3: Borrowings by Mutual Funds



Source: Computed from holdings data taken from Lipper for Investment Management

Agency Theory

Was the motivation for shifting to high-yielding products driven by agency problems? One needs to look at the performance of the fund managers to understand the phenomenon. If managers consistently perform well, there is no reason for such aggressive behaviour during periods of bearish interest regime. On the other hand, any inconsistency performance would motivate concerned managers to increase exposure to high-yielding risky, though illiquid, assets. Performance of top ten fund managers (Table 3) for the past three years shows major fluctuations. Results in Table 3 are based on performance of the chosen 409 funds.

Table 3: Performance of top ten fund managers

Fund Name	Manager Tenure(Yrs)	Annual Performance (%)		
		2015-16	2016-17	2017-18
Taurus Ultra Short Term Bd-Retail Growth	0.8	8.28	-5.38	9.27
Taurus Short Term Income Fund-Growth	0.8	8.68	-5.10	9.12
Taurus Dynamic Income Fund-Growth	0.8	7.27	-7.04	8.78
Indiabulls Income Fund-Growth	3.6	6.61	7.81	8.41
Franklin India Short Term Inc-Growth	3.9	6.02	11.12	8.39
Franklin India Income Opportunities Fd-Growth	3.9	6.14	11.30	8.36
Franklin India Low Duration Fund-Growth	3.9	9.05	10.20	8.19
Franklin India Dynamic Accrual-Growth	3.1	8.27	11.50	8.15
Franklin India Credit Risk Fund-Growth	3.9	6.98	10.74	8.02
Taurus Liquid-Retail-Growth	0.8	7.51	-0.86	7.76

Source: Lipper for Investment Management. Performance is measured as percentage change in NAV of a fund adjusting for any distributions. Ranking is based on performance of 2017-18.

The top performing fund manager (Taurus Ultra) in 2017-18 had joined the fund less than a year ago. Hence, it shows that the mutual fund had changed the manager during 2017-18 due to poor performance in the previous year. It is also found that all fund managers (in top 10) who have performed poorly during 2016-17 were replaced. Another interesting feature worth noting is huge variation in performance of fund managers across years. For example, the top performer of 2015-16 (Franklin India Low Duration Fund) secured seventh position in 2017-18. Naturally, funds which did not perform well in 2016-17 would try to improve its near term (next year) performance to satisfy investors. Since all investments are marked-to-market on daily basis, change in market price of bonds would show up in the NAV. Therefore, bonds which are less sensitive to interest-rate risk would attract more funds from managers who would like to improve their performance.

Conclusions

Indifference to liquidity buffer (due to availability of generous lines of credit) and principal-agent problem are major contributors to the pro-cyclical behaviour of fund managers. Since incentive of fund managers is linked to the fund performance, managers may have perverse incentive to boost short-term performance at the risk of putting the fund face higher volatility in the long run.

The Myth of Sisyphus: Bad Debt and the Indian Banking Sector

Partha Ray



Partha Ray, Ph.D., is Professor, Economics, Indian Institute of Management Calcutta (IIM-C). Prior to joining IIM-C, Prof. Ray, a career central banker, was the adviser to Executive Director, International Monetary Fund, Washington D.C. during 2007-2011

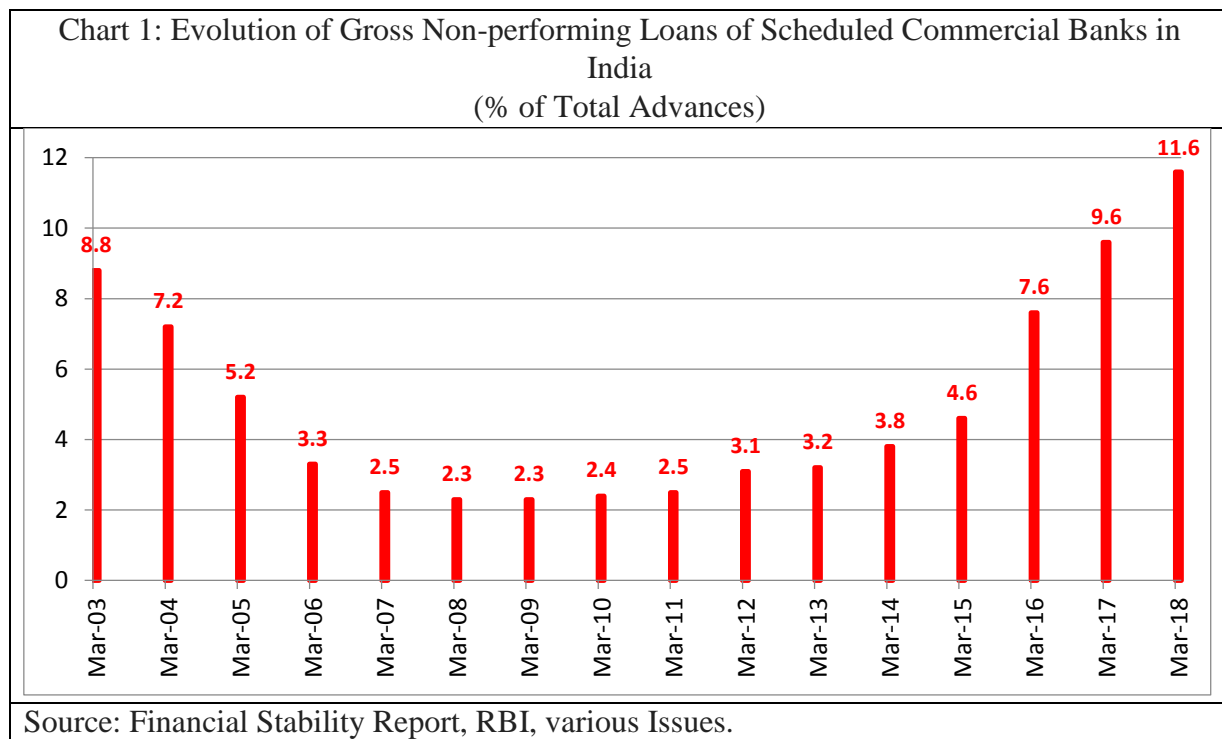
“The absurd is lucid reason noting its limits.”

(Albert Camus, *The Myth of Sisyphus and Other Essays*, 1942)

The continuing crisis of non-performing assets of the Indian banking sector has emerged almost as the theatre of the absurd. What appeared to be a problem of select public sector banks earlier has in recent times surfaced as an ever-unfolding story. With elusive fugitive industrialists and jailed bankers, the story has elements of a B grade pot boiler Bollywood movie. The most encouraging statement in this context that one has heard in recent times is: "The worst is behind us". Is it really? Does the chronicle of bad debt of the Indian banking sector reminds one of the story of Sisyphus in the Greek Myth where continuous efforts to take a stone uphill would invariably lead to a failure, only to be followed by similar efforts . The present note looks at this hackneyed question for the nth time.

Past Trends and the Genesis

To put the records straight, let us remind ourselves that the situation has been improving till about 2009; the deterioration has started since then. The current gross NPA of scheduled commercial banks at 11.6 per cent of aggregate advances (exceeding INR 10 trillion) is even higher than that during March 2003 (Chart 1). Thus, it seems that the banking sector is now back to the pre-financial liberalization days. What went wrong?



From the vantage point of July 2018, it appears that most large NPLs originate from the expansionary monetary policy phase following the global financial crisis after 2009 when large corporate lending expanded considerably. Four specific factors seem to be responsible in particular:³

- Regulatory forbearance shown by the RBI in the aftermath of the global financial crisis;
- sharp fall in global commodity prices leading to corresponding falls in profitability of sectors such as steel;
- aggressive government promotion of public-private-partnership (PPP) for infrastructure that led to the entry of heavily leveraged companies, borrowing predominantly from public sector banks; and
- governance issues with the management of select public sector banks (including inadequate due diligence and charges of corruption).

Two things appear from these contributory factors. First, the problem was more systemic in nature. Second, to blame all issues on a few corrupt bankers is erroneous. To put it in context, illustratively, one needs to distinguish between the issues surrounding Bhushan Steel, on the one hand, and Nirav Modi on the other.

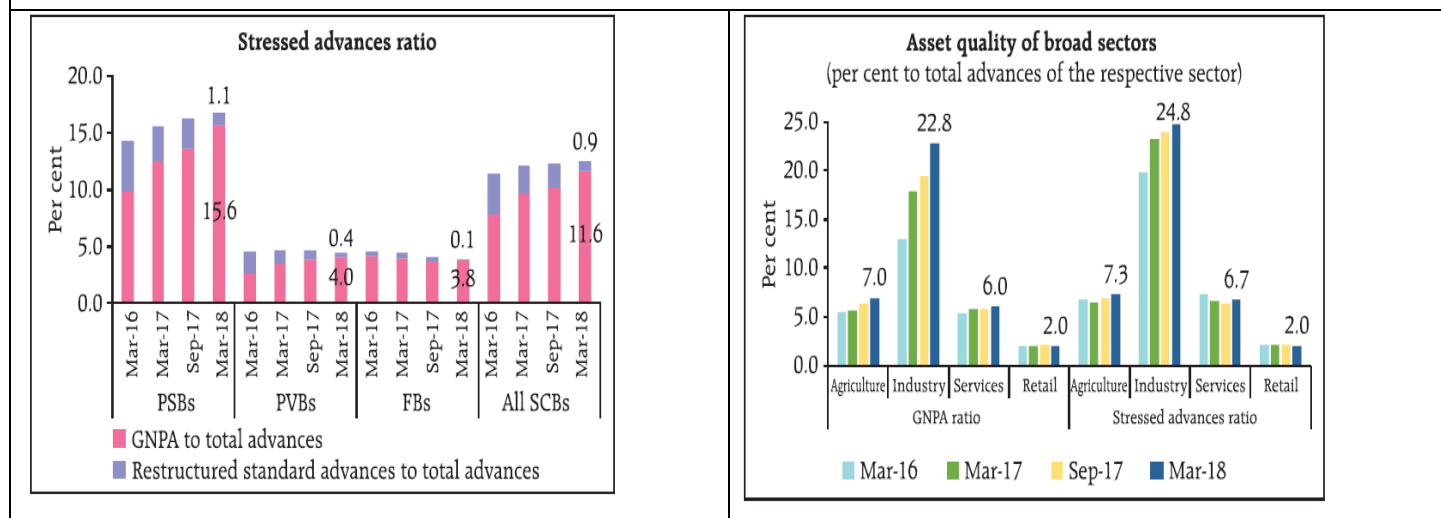
³ Mohan, Rakesh and Partha Ray (2018): "Indian Monetary Policy in the Time of Inflation Targeting and Demonetization", *Brookings India Working Paper 4*, May 2018, available at <https://brook.gs/2Mfm3PM>.

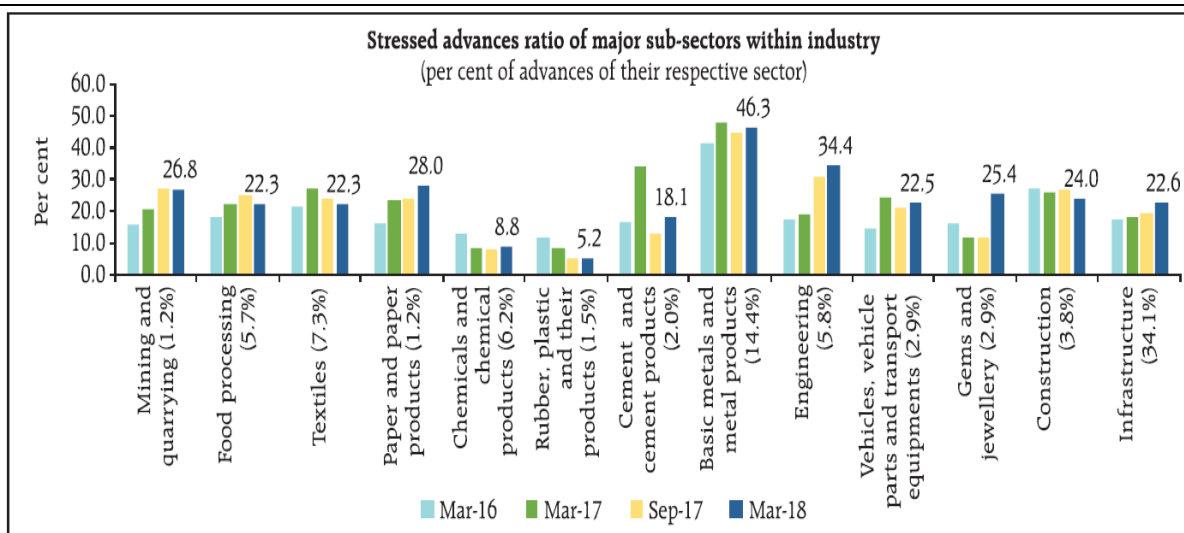
Recent Trends

The recently released RBI's Financial Stability Report (June 2018) gives a wealth of information in this regard. Following broad trends may be flagged in particular (Chart 2):

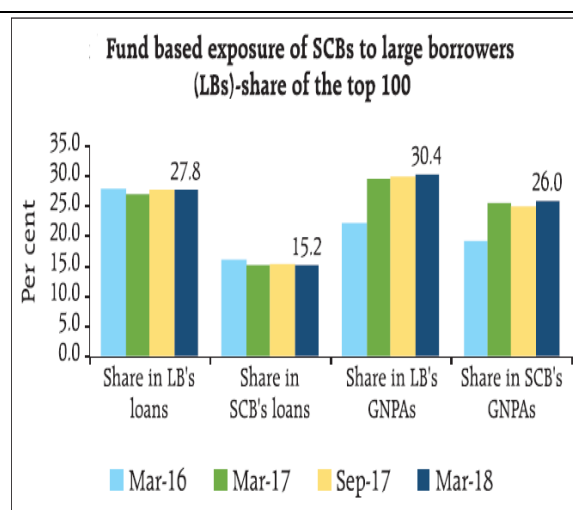
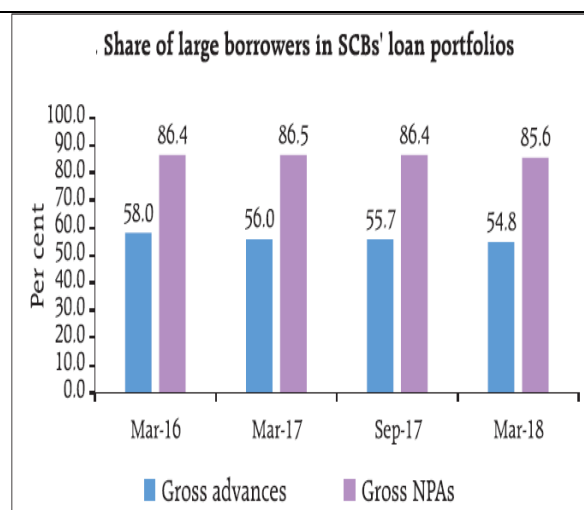
- Gross non-performing advances (GNPA) of scheduled commercial banks rose from 10.2 per cent in September 2017 to 11.6 per cent (as percentage of advances) in March 2018.
- This ratio in the industry sector rose from 19.4 per cent to 22.8 per cent during the same period. The situation in case of stressed advances (i.e., GNPA plus restructured standard advances) is far worse - it increased from 23.9 per cent to 24.8 per cent.
- Within industry, the stressed advances ratio of subsectors such as 'gems and jewellery', 'infrastructure', 'paper and paper products', 'cement and cement products' and 'engineering' registered increase in March 2018 from their levels in September 2017.
- Large borrowers accounted for lion's share of both credit and non-performing loans. In March 2018, large borrowers accounted for 54.8 per cent of gross advances and 85.6 per cent of GNPA. Top 100 large borrowers accounted for 15.2 per cent of gross advances and 26 per cent of GNPA of scheduled commercial banks.

Chart 2: Recent Trends in Non-performing Assets of Scheduled Commercial Banks





Note: Numbers given in parenthesis with the legend is the share of the respective sub-sector's credit in total credit to industry.



Note: PSBs: Public Sector Banks; PVBs: Private Sector Banks; FBs: Foreign Banks.

Source: Financial Stability Report, June 2018, RBI

How far bad can it go? The stress tests done by the RBI indicate that under the baseline scenario, the GNPA ratio of all scheduled commercial banks may increase from 11.6 per cent in March 2018 to 12.2 per cent by March 2019. But, more seriously, if the macroeconomic conditions deteriorate, their GNPA ratio may increase further. Among the bank groups, the GNPA ratio of the public sector banks may increase from 15.6 per cent in March 2018 to 17.3 per cent by March 2019 under severe stress scenario, whereas the GNPA ratio of private sector banks may rise from 4.0 per cent to 5.3 per cent and FBs' GNPA ratio might increase from 3.8 per cent to 4.8 per cent. The situation looks quite bleak.

Going Forward

Various measures have been tried in the recent past - from Debt Recovery Tribunals, to enacting the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 - from adoption of Indradhanush Scheme for PSBs to latest Prompt Corrective Actions. But the success seems to be limited and still the malice does to seem to be going away. In fact, if press reports are to be believed, former Chief Economic Adviser Arvind Subramanian who appeared before the Parliament committee on estimates (Chairman: Shri Murli Manohar Joshi) reportedly was not convinced that the NPA issue would be resolved within a year or two.⁴

In this backdrop the high-level committee on restructuring stressed assets and creating more value for PSBs (Chairman: Sunil Mehta) generated much interest. Nevertheless, its recently submitted report could not spawn much promise. Contrary to expectations, the Committee did not propose a bad bank but highlighted a five-pronged resolution route, viz., (i) SME resolution approach (for smaller assets up to INR 50 crore); (ii) bank-led resolution approach (with asset size ranging between INR 50 to INR 500 crore); (iii) AMC/AIF led resolution approach (for large assets with exposure more than INR 500 crore with potential for turnaround); (iv) NCLT (National Company Law Tribunal) / IBC (Insolvency and Bankruptcy Code) approach; and (v) asset-trading platform. But all these measures while attempting to address the NPA problem, does not seem to be addressing the key governance issues in public sector banks. There are serious with the functioning of the recently constituted Banking Bureau Boards.

All together the scenario does not look to be too promising. Measures to deal with at the surface may not yield very positive results. While expecting fundamental reforms of the banking sector at the current juncture may be foolhardy, witch-hunting the bankers is not the solution either. In fact, a situation might emerge in near future when bankers may make the easy route of investing in excess SLR securities rather than extending loans to the industrial sector. The current situation perhaps makes ones' faith stronger in the adage "The more things change, the more they stay the same".

⁴http://economictimes.indiatimes.com/articleshow/64950255.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

FIFA World Cup: An Off-the-Field Impact

Samit Paul



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The entire world feels the rush of adrenaline and excitement of all nail-biting finishes when the biggest and most thrilling sporting carnival takes place in every four years. Yes, we are talking about the FIFA Football World Cup, which is the prime catalyst for a sleepless night, an endless fight and most importantly the win of might. For almost one month, the cheering fans on road, sold out hotels and fully packed bars and restaurants are the natural exhibitions for any country hosting this event. It clearly shows that with the kick start of the event, the economy of the host country experiences a positive twist. Therefore, analysing the direct impact of such event on host economy and its indirect impact on others are of much interest among the economists.

Let us focus on the recent FIFA World Cup 2018, which has been hosted by Russia, the \$1.3 trillion economy. In this particular tournament, 32 nations have participated from different parts of the globe. Five of the 10 largest economies are part of these troops. These 32 economies accounts for almost 35.73% (\$31.26 trillion) of total world's wealth. Combined per capita income of all of them amount to \$18,945, which is 1.62 times better than that of World's per capita income of \$11,727. Euromonitor, the market research company, believes that this particular event will promote Russia as a preferred destination of tourists even after the end of World Cup. Mr. Alan Rowan, the sports industry manager of Euromonitor, expresses in a note: "The number of inbound arrivals in Russia is expected to record a compound annual growth rate of 4 percent by 2022, reaching 37.5 million trips". It has predicted a 1.8% surge in footfall in Russia as a direct outcome of hosting World Cup. Naturally, along with gaining the pride of hosting the World Cup, Russia expects a major boost in economy especially in the industries of tourism, hotels, foods and beverages and constructions. In order to maximise such expected benefit the Russian Government has planned to invest large amount of money to make the event a grand success. According to the Moscow Times⁵, Russia will exceed investing \$14 billion in hosting the World Cup, surpassing the official cost of \$11 billion that comprises transport infrastructure cost of \$6.11 billion, stadium construction cost of \$3.45 billion and accommodation cost of \$680 million. This makes FIFA World Cup 2018 to be the most expensive football tournament in history.

⁵ <https://themoscowtimes.com/news/Russias-World-Cup-Costs-to-Exceed-Record-Setting-14Bln-61732>

Despite this huge amount of investment, the host country is not expected to derive much benefit in reality. According to the rating agency Moody, this competition would create a very limited economic impact at the national level due to the very large size of Russia's economy and the short duration of the World Cup. Hence, although Russia has experienced a healthy external accounts based on boost in tourism, the added support is only short-lived. Moody's further add: "Much of the economic impact has already been felt through infrastructure spending, and even there the impact has been limited. World Cup-related investments in 2013-17 accounted for only 1 percent of total investments".

Therefore, one may be curious to know the different factors that outweigh the economic benefits provided by such gala event. Moreover, another important question is whether this short-lived, not so impactful World Cup event is only specific to large economy like Russia, or such impact is inevitable everywhere else? In order to explore this, it is better to look at the similar historical events and analyse those post-event scenarios.

Reasons for lower impact on economy:

There could be different reasons which contribute to the lowering of impact of FIFA World Cup 2018. These are listed below:

Opportunity Cost

One of the prominent reasons is opportunity cost. The money invested in infrastructure building should be justified on the ground that it would bring economic boost in short term and steady growth in long term. The investment in sporting infrastructure is not really useful for economic well-being of an average worker. For example, most expensive stadium of Brazil, which has been constructed before FIFA World Cup 2014, is currently being used as a parking lot⁶. Although initially the expectation from this World Cup was very high, especially as Brazil is a representative of emerging economy, only 64% of the planned investment has been executed. The auditors have concluded that with such amount of money more than twice of annual social welfare bills of Brazil could have been paid.

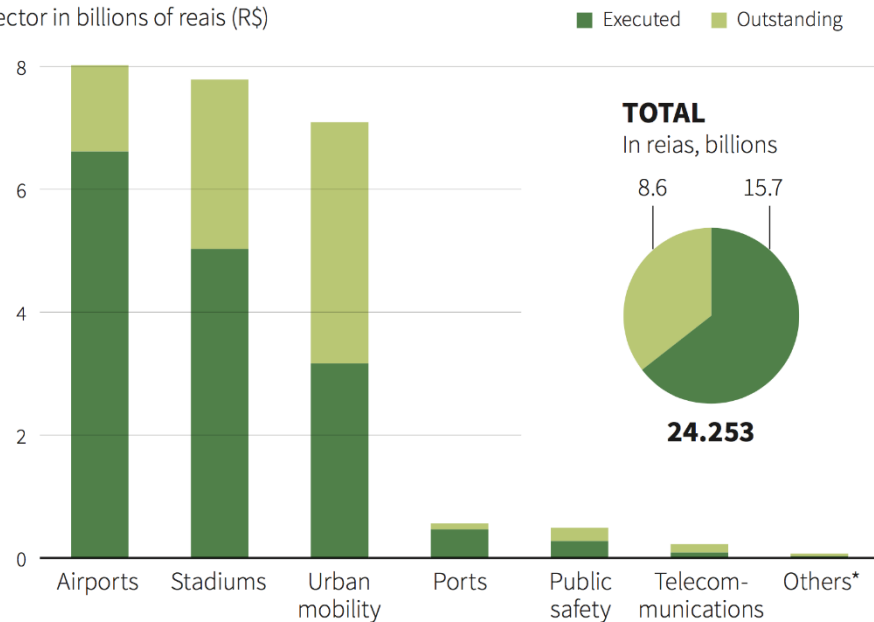
⁶ <https://www.npr.org/sections/parallels/2015/05/11/405955547/brazils-world-cup-legacy-includes-550m-stadium-turned-parking-lot>

World Cup economic impact

Initial expectations that the World Cup might bring a big boost to Brazil's economy have been replaced by more sober forecasts, with around 64% of planned investment executed.

CONTRACTED INVESTMENTS

By sector in billions of reais (R\$)



Source: World Cup portal of the Brazilian government. \$1 = R\$2.21 All figures as of Thursday 1000 GMT.
Staff, 22/05/2014

REUTERS

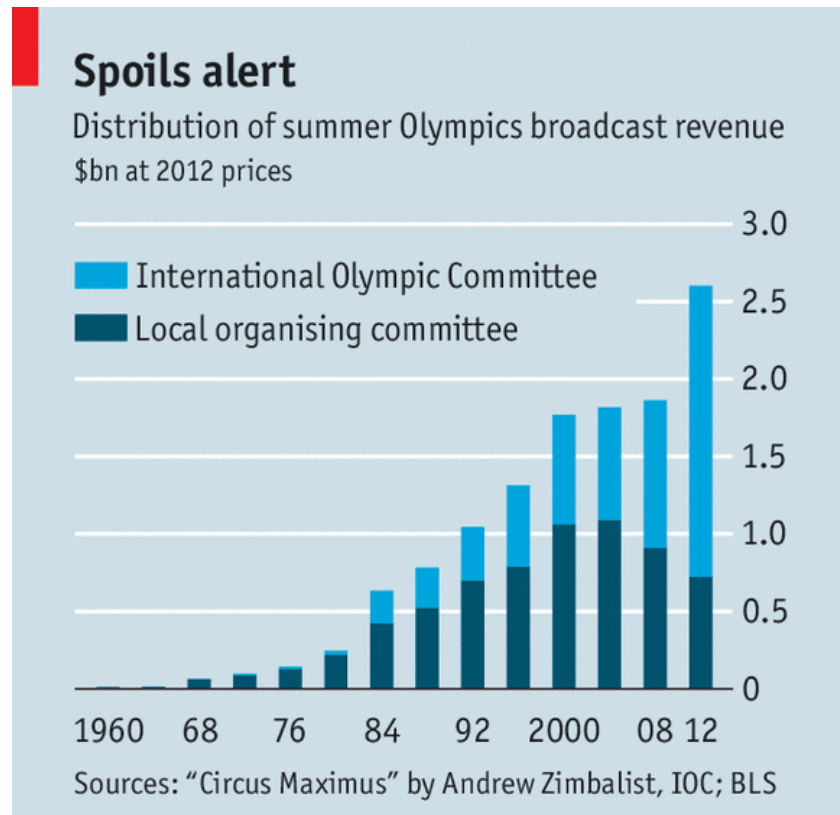
The similar criticisms had been raised before the FIFA World Cup 2010 which was hosted by South Africa. Economists argue whether money invested in the process could have been better utilised in development of impoverished communities.

Changing Patterns of Tourism

Although popular sporting events attract huge number of sports fans, may also disrupt the regular tourist flows. Tourists may be driven away towards less crowded and less expensive destinations. After the Beijing Olympic 2008 and London Olympic 2012, both the cities had experienced a year-on-year decrease of visitors. Even most popular British museum saw 22% less visitors during the month when the games were held. Moreover, some spending is associated with the process of attracting sports fans. Therefore, in case the footfall does not match the expected figure, the possible economic benefits get washed away.

Sharing of revenue

Sharing of revenue with the governing bodies is another major concern for the local organizers. Various revenue streams such as sales of merchandise, sponsorship, gate receipts provide some earnings to the local organizers, but those are really not significant. The hefty share of revenues that are earned by television rights largely goes to the governing bodies. FIFA has generated almost \$5 billion revenue from World Cup 2014, More than 50% of such revenues have been generated from television rights. Andrew Zimbalist, the famous economist, has shown that the International Olympic Committee (IOC) now earns more than 70% of revenue from television rights comparing to 4% that has been earned between 1960 and 1980.



Economist.com

Population of Participant Nations

Although this factor may not be that much significant compared to others as listed above, it may be worthy enough to explore in context of World Cup 2018. Brazil, the most populous participant in this World Cup, is ranked 5th in world population wise. Therefore, top four countries in term of population are not there in this tournament. Only 5 among these 32 nations have more than 100 million citizen per country and 9 countries have population less than 10 million each. It may have an indirect impact on the number of visits and economies of scale of this particular mega show of football.

Although the reasons cited above may play a crucial role in offsetting the expected economic benefit, the impact of World Cup 2018 is not only confined to the host and participating countries. It stretches out much beyond its geographical boundaries. Fan IDs provided to ticket holders in order to get visa-free entry and avail free rides on inter-city trains and public transport attract people from non-playing countries like India also.

Impact on Indian Economy:

As of 23 June, 2018, Indians have spent \$11 million already on premium match tickets. This figure has surpassed the \$9 million which had been spent by Indians in World Cup 2014. India is among the top 10 countries in terms of number of tickets purchased. According to Make-My-Trip, the online travel company, the bookings have been increased by 400% vis-à-vis June-July last year. Mr. Anurag Verma, the chief executive of Hawaii Travels & Tours, comments: “There is a huge demand surge for Russia packages even exclusive of the World Cup. Even for those, average rates have hit upwards of Rs 84,000 per person.”

Those who are not on travel to Russia, are riveted on their screens. The TV sales in India has experienced a sudden spurt just ahead of the World Cup, especially in West Bengal, Kerala and the Northeast. Panasonic India has already reported 50% sales growth in the past month. Micromax has predicted a 25% increase in sales by end of June and LG electronics has found the sales to be doubled in certain parts of country. Nidhi Markanday, the Director of Intex Technologies, has quoted: “This year, the rub-off of football fever is being felt across Indian cities unlike earlier when it was restricted to East, North-East, Goa, Kerala and Maharashtra and we have witnessed a spurt of 10-15 per cent in our sales over and above normal CAGR growth in LED TV segment”. Along with the growth in sales, the investment in innovation by the TV makers is also one of the important features of FIFA World Cup 2018. To give better feels to the audience, most of the industry players have launched large screen size models. Sony India has launched new BRAVIA OLED A8F to provide enhanced games watching experience to the customers. On the other hand, Samsung has started World Cup focused campaign with its new versions of QLED TV with screen size of 55 and 65 inches. Along with such demand of new and upgraded TV sets, viewership of this event has accelerated significantly. According to the Broadcast Audience Research Council, the World Cup 2018 has reached 31.6 million viewers for the three games in first week, whereas the reach was only 14.9 million in five games a week in last World Cup. It is expected that the viewership will be much higher once the ball will be rolled at knockout stage. Sony Pictures Networks India (SPN), the official broadcaster of the FIFA World Cup 2018, has roped almost 15 brands as associates. These include brands like Association of Mutual Funds in India (AMFI), Hero, Honda Motors, Parle Agro, Castrol, Apollo Tyres, Uber, Indeed etc. According to the media agency executives, SPN may end up collecting 175-200 crore from this World Cup.

In spite of such gripping excitement about the World Cup across the country, there is no Indian sponsor for this biggest commercial sporting event. In contrast, China represents one top-tier partner (Wanda Group), three second tier sponsors (Hisense, Mengniu and Vivo) and three third tier sponsors (Diking, Luci and Yadea) in this World Cup. Chinese companies aim to get access to the Western audiences and to provide their brands a cosmopolitan image. Time will tell whether Indian companies, who want to expand globally in future, have missed a trick here. Ricardo Fort, the global VP of Coca-Cola, the longest running sponsor of FIFA, has told: “It is getting increasingly important to be at events such as FIFA; Live sports is one of the few things that people stop and pay attention to what you are saying”.

Being a part: Does it matter?

It is imperative to understand whether only the economic benefit is to be considered before being a part of this mega commercial event either as a host or as a participant or just as a sponsor. Goldman Sachs has shown that at least in short term the stock markets of host country and the winner of World Cup experience an upward movement. However, many hosting countries do not often focus upon stock market moves or cost of hosting. Rather, they consider this to be an avenue to send signal to the rest of the world about their policies, culture or nation building strategy. Therefore, it is not always fair to judge the success of such event by hard numbers and statistics. The sporting event like World Cup is one of the very few things that bring the whole world together. It has the ability to cross many social and political barriers across caste, creed, religion and countries. Moreover, it acts as a storehouse of feel-good factors, stories to inspire children and youth to take up sport, and more importantly unconditional love stored for a nation. Hence it's better to conclude with the following quote by Pope John Paul II: "Among all unimportant subjects, football is by far the most important".

ALUMNI CORNER**Banking on Performance****Balachandran R**

Balachandran R is an alumnus of IIM Calcutta (1987-89) with extensive experience in corporate banking, investment banking and product management.

Banks are mandated by the regulator to have a board approved credit risk policy document. The Chief Risk Officer (CRO) in a bank, sandwiched between sales and credit, has a balancing role to play. A risk averse CRO is considered a stumbling block for business by the sales and relationship management team. On the other hand, being too liberal in supporting new business proposals, puts the bank's capital at risk, down the line.

Banks have elaborate credit risk assessment processes for assessing their borrowers, though the efficacy of these is questionable, with not a day passing, without a major bad loan or fraud at a bank, hitting the headlines. Be that as it may, how does one assess the performance of a bank?

It is a well-known fact in the industry that a bank's financial results is largely a function of the provisioning/reserves for loan losses that a bank makes towards its non-performing assets. Some of the best names in the banking industry, have been known to resort to aggressive tactics, to avoid and postpone recognizing non-performing assets. While this is difficult to implement in the retail loan portfolio given the vast number of borrowers, banks can get really creative when it comes to delaying problem recognition of large corporate borrowers. Granting additional loans/"temporary" accommodation to pay interest and/or principal dues, routing such loans through group companies to pay off the dues of the defaulting borrower, "restructuring" of loans to provide extended payment terms etc., are some of the time tested methods.

The bubble that is thus built up across the industry, bursts every once in a while either due to regulatory action or due to cyclical reasons, with losses hitherto unrecognized surfacing all of a sudden. Large scale capital infusion to stem a run on banks is the order of the day. In the bank specific "big bath" strategy, a new CEO decides to start on a clean slate by providing/making loan loss reserves for all the hitherto hidden bad debts in the portfolio, on taking charge at the helm of the bank. The added incentive is the suppressing of the bottom line in the year the CEO takes over, thus laying the ground for "much improved" performance in the forthcoming periods.

Asset quality, the tip of the iceberg

It is thus patently obvious that when it comes to assessing a bank's performance, the quality of its asset portfolio is one of the principal factors. So how one assess a bank's asset quality? Gross NPA %, net NPA % and provision coverage ratio are some of the disclosures in a bank's financial statements. Without getting into the nuances of their calculation, Gross NPA is the sum of all identified non-performing assets as per the regulatory norms, while Net NPA is the Gross NPA less provisions etc. It would prima facie appear that the Net NPA % would be a figure to focus on, in assessing a bank's asset quality, and therefore its performance. Though there is often a significant divergence between the figures in the financial statements and the asset classification and NPA/provisioning figures assessed by the regulator, the material impact of such divergence on Net Profits is disclosed in the notes to the accounts.

The matter does not end there. The Net NPA figure, is often the tip of the iceberg. Net NPA's represent accounts which are 90 days and more in default. Banks move heaven and earth to try and ensure that their borrowers do not slip into this category. Some of the creative tactics in window dressing were discussed in earlier paragraphs. So this raises the question on the availability of data from banks, on borrower accounts which are in default between 1 and 90 days.

The regulators in many parts of the world characterize such defaulters as "special mention accounts" (SMA). The regulator in India mandates banks to categorize these into three buckets, SMA-0 representing accounts in the 0-30 days overdue category/showing signs of incipient stress, SMA-1 for 31-60 days overdue accounts, and SMA-2 for 61-90 days overdue accounts. Lenders need to report such accounts to Central Repository of Information on Large Credits (CRILC), maintained by RBI with the objective of disseminating such information to other banks.

This raises an important issue in transparency. Why is the data on such SMA categorized accounts not disclosed in a bank's financial statements? While individual borrower names would be subject to customer confidentiality clause, there is **no mention** of the aggregate outstanding in "**Special Mention**" accounts in a bank's financial statements! The data would be as insightful, if not more, than the Gross NPA and Net NPA % figures. In the absence of such data, analysts can make only half-baked assessments of a bank's asset quality and its performance.

Capital adequacy

Next in line are the parameters for measuring a bank's capital adequacy, primarily in the form of Common Equity, Tier 1 and Total Capital Ratios and the Leverage Ratio. While the former are based on risk weighted assets, leverage ratio uses unweighted assets, both on and off balance sheet. The Basel standards stipulate a minimum of 8% for Total Capital to risk weighted assets ratio and 3% for leverage ratio, though national jurisdictions can impose higher standards.

The US Federal reserve in its just released report on Comprehensive Capital Analysis and Review 2018, revealed the results of its stress tests of large financial institutions in the US. The tests focused on the capital ratios and the leverage ratio. Most banks made the mark, while a few including Goldman Sachs and Morgan Stanley managed to scrape through with “conditional non objection” to their capital /distribution plan to shareholders. As expected, Deutsche Bank’s US operations, failed to make the cut. The recent tests conducted by RBI reveal that ten banks in India may breach capital adequacy ratios in a stressed scenario.

India has its more than fair share of undercapitalized banks, with 11 public sector banks brought under the “Prompt Corrective Action” (PCA) ambit. The PCA mechanism is aimed at conserving the capital of such banks, by measures such as restriction on distribution of earnings to shareholders, cost control etc.

Asset quality and capital adequacy parameters are two sides of the same coin, as the former has a direct impact on the latter; loan loss provisioning to reflect recognition of stresses in the portfolio, brings down a bank’s capital.

Liquidity

The 2008 financial crisis revealed the hollowness of the banking system and its liquidity management capability in the face of unprecedented stress in the markets, and the consequences of excessive reliance on unstable bulk deposits. Massive central bank organized infusion of liquidity helped save the banking system from disaster. Learning from the lessons two new measures have been stipulated by the Basel Committee, the Liquidity Coverage Ratio for short term liquidity measurement and the Net Stable Funding Ratio for more durable liquidity measurement.

Profitability

As highlighted in aforesaid paragraphs, banks have traditionally been able to determine accounting profits by kicking the proverbial can down the road, with respect to non-performing assets. While an analyst is justified in looking askance at the published profit figures of a bank, Return on Assets defined as Profit After Tax/Average Total Assets, is a common measure used in assessing a bank’s profitability. Other parameters are Return on equity and RAROC or risk adjusted return on capital.

Banks are also assessed on net interest margin which is defined as its net interest income (Interest earned less interest paid)/Average interest earning assets, indicating the spread a bank earns on its assets, over its cost of funds.

The raw material for banks is money, and as in any other industry, banks perennially look for cheaper sources of funds. Banks in India, obsess over their CASA ratio, which is their low cost savings and current account deposits

as a percentage of their total deposits. The new generation banks face challenges on this front as they tend to offer higher interest rates on savings deposits to attract customers, and take more time to build up such balances.

Efficiency

The cost income ratio reflects the extent to which non-interest expenses of a bank make a charge on the net total income (total income - interest expense). A lower ratio in comparison to peers or historical figures, indicates more efficient operations. It is defined as Non interest expenditure / Net Total Income, expressed in % terms.

The Credit deposit ratio indicates the size of lending portfolio relative to deposits. A low ratio indicates reduced efficiency in deploying deposits, while a very high ratio could indicate a constraint on future expansion in lending and liquidity pressures.

Qualitative factors

The CAMELS rating scale developed in the US, is used by supervisory authorities to award ratings to banks based on capital adequacy, asset quality, management, earnings, liquidity and sensitivity to market risk. The element of subjectivity is inherent in some of these rating parameters. The ratios are privy to the regulator and the bank senior management, and are not available in the public domain.

Other qualitative factors could include concentration risk, in terms of geographic, retail/corporate, credit concentration etc. Today's banks pride themselves to be "truly digital", or well on the path towards being one, an internal qualitative measure.

The verdict of the equity, bond and derivative markets

The great equalizer, the markets, have the final say in valuing banks, and therefore, their performance.

The **equity market** capitalization figures of banks in India, reveal interesting trends. The market cap of banks, especially public sector banks with bigger asset size, pales in comparison to that of a vaunted private sector bank primarily on account of the former's asset quality issues. If the latter's outstanding in the special mention accounts, are put on the public domain, perhaps Mr. Market, may take a different view on the valuations!

Yields demanded by the **bond markets** on contingent convertibles ("Cocos") or perpetual bonds issued by banks to meet Tier 1 capital ratio requirement, can offer insights on the risk perception of banks in the markets. Deutsche Bank witnessed a sharp uptick in the yield on its Cocos last year, reflecting the market worries on its performance.

The credit default swap spreads from the **derivative markets** too have their own story to tell, in terms of the risk profile of banks. Widening CDS spreads are early harbingers of deterioration of a bank's risk profile.

Conclusion

Asset quality is an overarching measure of a bank's performance. In the absence of complete disclosure by banks on this key parameter, it is left to the markets to collectively gauge a bank's value and its risk profile, and in a worst case scenario, it is left to the perception of depositors who vote literally with their feet, in the nightmarish scenario of a "run on the bank".

Banks voluntarily, and regulators, can take steps to vastly improve disclosure of asset quality, rather than putting forth Non performing asset figures of individual banks based on technicalities like 90 day overdue, leaving the analyst and the depositor to second guess what lurks beneath the tip of the iceberg.

GUEST COLUMN

Can “BlockChain” Make Keynes’ International Currency Union come alive?

Deep N Mukherjee



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The debate on crypto currencies rages on. The most popular debate hovers around the questions of broader acceptability of cryptocurrencies, whether at some point in time cryptocurrency usage can become so widespread that they start challenging the stature of fiat money? Would central banks bring cryptocurrencies under their regulatory ambit? Whether cryptocurrency is just another bubble, which will fizzle out as cost of funds creeps up, from level zero? With respect to the underlying technology, which enables cryptocurrency-namely Distributed Ledger Technology (DLT), there is more consensus on the brilliance of the dataset architecture and its potential. Blockchain, which has caught on popular imagination, is a specific dataset architecture within the broad class of architectures classified as DLT. The most popular used case of Blockchain being the cryptocurrency Bitcoin or rather the facilitation of transactions with Bitcoin.

There is a significant amount of anticipation on potential use of DLT other than cryptocurrency. These typically involve using DLT for facilitating high frequency transactions such as payment, manipulating transactions data, post trade settlement and the like. While DLT in its current avatar is close to a decade old however it continues to fall short of expectations in terms of basic performance parameters such as speed, scalability and operational efficiency. This has limited instances of widespread industrial scale implementations of DLT, despite generating promising results in ‘proof-of-concept’ stage in several cases. Given the current stage of development of the technology, it may be argued, whether such high-frequency fast response processes are the most optimal use of DLT. In this regard, conventional data base technologies on the lines of RDBMS handles way more volumes, more efficiently at higher speed. However, comparing the weakness of DLT with the strength of conventional database architecture may not be fair.

Among the strengths of DLT is its ability to enable peer-to-peer transactions without the need for a centralized monitoring/administrative entity. Of course, conventional data architectures do not support such functionality. So

DLT may require used cases which leverage its strength. It has potential to be used for facilitating solutions to far wide ranging economic challenges which previously did not have the required technical infrastructure. One such use case is technologically enabling an International Currency Union where a global reserve currency may be mined by all member nations i.e.; ‘Mineable’ Global Reserve Currency-MGRC. It may be called a Worldcoin. Of course, it would require huge global political consensus (or a major foreign currency crisis), to initiate the thinking and debate in that direction.

The argument for the desirability (or undesirability) of a new global reserve currency or a new global monetary order is outside the scope of the current piece. As such, the period from 1971 to 2008, which was characterized by the fiat currency form of US dollar as global reserve currency, had experienced high global growth with relatively lesser number of financial crisis/instability than most periods in history. Only the period from 1945 to 1970, had possibly experienced higher financial stability and more balanced growth than the period 1971 to 2008. However, the 2008 crisis ,and its aftermath, challenged quite a few economic assumptions including the existence and concept of ‘a’ global reserve currency issued by a sovereign i.e.; USA. Global policy response to 2008 crisis ranged from Unconventional Monetary Policy (UMP) to fiscal austerity. The jury is still out on the success of these measures, though strong expectations remain of a global economic recovery. The debate of global reserve currency revived because the trajectory of US economy and strength (or weakness) of USD has taken the world economy on a roller coaster ride. Particularly vulnerable being the emerging markets and developing markets .Such countries face strong challenge to improve the quality of lives of economically weaker sections and such efforts get sidetracked in the event of external financial shocks.

Arguably, regulators and fiscal policy makers have exhausted their box of economic tools with which to fight future financial crisis as well as address structural issues such as global fiscal and trade imbalance. We, given this background, create a case for usage of technology enabled economic tools such as a ‘mineable’ global reserve currency (MGRC), not issued by a sovereign or a group of sovereigns (example Special Drawing Rights-SDR). This MGRC may leverage DLT dataset architecture, while harnessing available enhanced computation power and big data capability to capture ‘live’ data on global trade and financing to facilitate algorithms, which will enable mining of the proposed Global Reserve Currency (GRC). Of course, some bitcoin enthusiasts have been, for some time, propounding that bitcoin itself may be a GRC but it is bit far-fetched unless it has wider public acceptance and explicit backing from governments.

Very Brief History of Global Reserve Currency and Foreign Currency Regime

Prior to World War I, it was the era of “commodity money”. The value of the money was driven by the value of gold, silver or copper contained in the coin. Exchange value of coins issued by different countries was driven by the inherent value of the coin i.e. quantity of the commodity in the coin and the ongoing price of the commodity. As such, the volatility of foreign currency exchange was lesser. In fact, because of the commodity nature of the

coins the exchange rate to an extent was delinked from the underlying fundamentals of the economy that issued them.

When in mid-19th century paper notes started replacing commodity coins more widely, the paper coins retained the essence of commodity money. The paper notes were backed by promise of the issuing government/authority to replace it with gold/silver. The value of the paper note was driven by the amount of gold/silver that was promised by the issuing authority. This often introduced volatility or run on a currency, when the users of the note doubted the government's ability to replace it with gold/silver and went ahead with demanding the commodity promised in the coin. In normal times, the exchange rates of such paper notes was driven by the amount of commodity the respective issuers/government promised with volatility getting introduced in the exchange rate in instances where people doubted the ability of the issuer to honor its commitment.

The First World War (WWI) ended commodity money when Great Britain, the issuer of sterling-the global reserve currency of the period, suddenly discontinued specie payment i.e. the bank notes ceased to be exchanged for gold coins. Post WWI financial instability aggravated and an effort was made by Britain in 1925 to return to gold standard, only to finally withdraw it in 1931. And thus Pound Sterling, which was gradually losing its stature as a global reserve currency to US Dollar, started to float.

The next pit stop in this story was the Bretton Woods Conference 1944. The Bretton Woods Conference debated on two proposals for a global monetary and foreign exchange regime. One was proposed by Harry Dexter White of USA and other was by John Maynard Keynes of United Kingdom. Keynes proposed an International Clearing Union (ICU), which would have issued a universal monetary unit of account called Bancor. ICU would be a multilateral body, keeping account/issuing Bancor, and thus no single country would have an overarching influence on its functioning. More details on ICU and related proposals are discussed later. The conference ultimately adopted White's proposals, which among other things had a Stability Fund, which would have provided for much needed post war reconstruction of Europe. White's proposal suggested that currencies have a fixed exchange rate against US Dollar which in turn would be convertible to gold. The proposal banked on member countries to issue currency to the extent of its gold ownership so as to maintain its exchange rate with respect to USD. For small deviations or imbalances, International Monetary Fund (IMF) was expected to step-in with support.

Between 1944 and 1970 there was a period of relatively high financial stability and growth particularly among the signatories of the agreement. USD was formalized as the global reserve currency. However, on August 15, 1971, US unilaterally discontinued the convertibility of USD to gold. With this, the USD became the first fiat money, not backed by gold, to become the global reserve currency. And it continues till date.

Post the Global Financial Crisis of 2008 when the balance sheet of US Federal Reserve expanded due to unconventional monetary policies including quantitative easing, it drove global monetary policy making to

unchartered territory. Trade imbalances which was already on the rise pre-2008, surged. Currently, it appears that the health of emerging nations depends on US continuing its high fiscal deficit. The moment there is any plan/discussion in US on correcting its fiscal position or reducing the Fed's balance sheet, there is often a capital flight of differing intensities in emerging markets. At some point in time, in not so distant future, central bankers and global regulators would need to find a way out of this dilemma. However, it appears that post-Keynesian / Monetarist /Neoclassical economics may not be having potent tools in its toolbox to handle this challenge.

Alternatives to current Global Reserve Currency- from Keynes to Stiglitz

Gessell to Keynes: The idea of a global reserve currency, which is issued by a supra-national entity as opposed to a sovereign in neither new nor recent. Back in 1920, Silvio Gessel, an economic thinker, proposed an institution called IVA-International Valuta Association, which was to issue a global monetary unit called *Iva*. The most prominent proposal on alternate monetary system was devised by Keynes and subsequently proposed at the Bretton Woods conference as UK's official proposal. The basic tenet of Keynes' proposal was the establishment of an International Clearing Union (ICU) based on an international bank money called Bancor meaning bank gold (in French). Bancor was proposed to be accepted as equivalent of gold for settlement of international balances. The union would not be linked to any one country but would be run as a multilateral agency.

Keynes realized that being the issuer of global reserve currency, as Pound Sterling was prior to 1940, was not an unmixed blessing. It almost always pushed the issuer to have unsustainable level of current account deficits with its ensuing deflationary overhand on the economy. Apparently, the seigniorage that the global reserve currency issuer charged to other countries came with a price.

Countries could hold Bancor as reserves as opposed to holding sterling, dollar or gold as reserves. The immediate benefit being, resources that remain trapped and thus passive as reserve could be released for funding real economic activity. The countries could, depending on their trade position, lend or borrow from the ICU. The union was expected to function as a supranational bank, where the credit of one country may be lent out to a debtor country. While similar financing transactions can be done using bilateral agreement, having a supranational quasi banking union can perform this function more seamlessly for pure economic considerations as opposed to possible political overhang which sometimes are inherent in bilateral financing transactions. The plan proposed a Governing Board to enforce fiscal and monetary discipline among the members.

The plan was intended to have a stabilizing impact on countries with payment or fiscal imbalance. In case of a surplus or deficit of even a quarter-year, the country would have to pay the ICU a charge of 1% per annum. Thus explicitly penalizing members for imbalance. If countries with deficit wants to extend their deficit by more than a quarter then the country needed to seek the Board's permission. If the deficit exceeds a pre-determined threshold, the country may de-value its currency with respect to Bancor, to the extent of 5%- above which it

would again have to seek the Board's permission. The Board would be responsible for providing guidelines to countries to regain their trade balance.

Certain aspects of the proposal were difficult to implement then as it is now. However, the underlying construct of the plan as well as quite a few operational aspects of the plan continues to remain relevant if one considers a global reserve currency issued by a supra-sovereign institution. In Keynes' original plan, founding members at initiation stage will set the value of their currency in terms of Bancor/Gold. Subsequent members would have to set the exchange rate in discussion with the board. Significant changes on exchange rate would have been allowed only with permission of the board. Likewise countries with surplus, which exceeds a pre-determined threshold for a quarter, would have to consider appreciating its domestic currency against Bancor. Alternately they could consider expanding its domestic credit or increasing money wages.

The idea may appear 'unbelievable' in this day and age of market driven foreign exchange rate. However, it must be remembered that market driven foreign exchange rate is a phenomenon, which came into being in 1970s after US Dollar was delinked from gold and became a free float. Even today absolute 'value' of a currency is not determined, one at best estimates the relative value of a currency against a basket of currencies or estimates likely future exchange rate of a currency with respect to another currency based on their respective inflation rates. And even in the last four decades no unambiguous framework exists which will tag a currency as 'over-valued' or 'under-valued' the way one would describe the value of equity of a company.

Keynes' proposal included formula for calculating maximum allowed debit balance which was supposed to be the country's quota. It will be based on the country's export and import for last three years. Keynes also highlighted other factors to fine-tune the calculations. For 1940s this was computationally intensive but in 2020s with its ability to capture real time trade data and cross border financing data, one may not only implement more involved rules for quota calculation but clearly it is within the domains of technological possibility.

For quite a few years, it appeared that the global trade imbalance would cause a breakdown in international relations and trade; but nothing of that sort happened. However, the world needs options to move out of this current imbalance, considerations for an ICU-like framework may be relevant. In fact in the last couple of decades, particularly post 2008, several economists and thinkers have proposed frameworks which are based on ICU or frameworks which will achieve similar objectives.

Paul Davidson and International Monetary Clearing Unit: Paul Davidson improved on Keynes' plan in an effort to make it more relevant to the economic and international political realities post 2000; since he did not consider the supranational central bank architecture suggested by Keynes to be either feasible or for that matter necessary.

His solution was for a “closed, double-entry bookkeeping clearing institution to keep the payments ‘score’ among the various trading nations plus some mutually agreed upon rules to create and reflux liquidity while maintaining the purchasing power of international currency”. On the lines of Gesell’s Iva and Keynes’ Bancor , Davidson proposed ‘International Money Clearing Unit’(IMCU) which will be the global reserve currency to be held only by the central banks of the member countries. ICMU can be transacted only between central banks and International Clearing Union. The private transactions will be cleared between the central banks accounts held with the clearing union. This is analogous to how money from one account-holder in a bank gets transferred to another account-holder in another bank through clearing facilities and involves adjustments against the reserves/deposits of the banks with the central bank.

The exchange rate between ICMU and local currency will be fixed and as per Davidson’s proposal will alter if efficiency wages change. ICMU value in local currency terms will also be driven by domestic inflation rate. This is to control for undue volatility of foreign currency and also reduce speculative attacks on currency. For excessive imbalances a country would have to take steps similar to Keynes’ plan.

Global Greenback Plan: Joseph Stiglitz and Bruce Greenwald proposed a Global Greenback system which was per se not a new global reserve currency but using the ‘Special Drawing Rights’ (SDR), as international reserve. However to the extent SDR is itself a basket of six currencies (latest addition being Chinese renminbi) a lot of the shortcomings identified by Keynes with respect to a global reserve currency being issued by a single sovereign would hold.

Thus, if the world ever goes more a mineable global reserve currency it is likely to have features closer to Keynes’ Bancor or Davidson’s ICMU.

Basics of DLT and Cryptocurrency⁷

DLT is a class of database architecture. A specific type (and of course the most talked about) of DLT is Blockchain. Blockchain caught onto popular imagination because it enables Bitcoin, the most popular cryptocurrency. DLT allows for accessing and updating database from multiple nodes (i.e.; Computers/CPU associated with a user/users) which may be in geographically different locations . The integrity/accuracy of the database is ensured through validation procedures which require consensus of all or some select nodes. As such, the concept of distributed access of a database or simultaneous access across physically different locations is neither new nor unique to DLT. In conventional databases, the storage of data could have been spread across multiple computers and accessed across different nodes. However there was one version/one view/one instance of the dataset at any point in time. The integrity/accuracy of the data depended on centralized data administration capability. Requests for addition to the database or updating existing records would be vetted/validated by data

⁷ Readers, aware of the basics of DLT and Cryptocurrencies, may skip this section without loss of continuity.

administration before it got reflected in the database. The centralized data administration capability may be called a ‘trusted authority’.

So a payment facility whose IT infrastructure consists of conventional database (which, as of today, is almost all) is likely to operate as follows. When a payment is made the payer’s account is debited and the payee’s account is credited and the system is updated to reflect the updated account status. The trusted authority is responsible for ensuring that the system correctly and promptly captures the transactions and reflects the latest account position. Other authorized, systems can access the central database to find the state of the payer and the payee

The ‘problem’ of course is that the trusted authority has tracked the transaction i.e. the transaction is not anonymous. In DLT there is no trusted authority i.e. no centralized facility to ensure data integrity. In that sense a ‘Distributed’ Ledger is sometimes called a ‘*mutually distributed ledger*’ to underline the fact that the ownership of data integrity is on the entire set of participating nodes and not just on some centralized data administrator.

In DLT, the users (node) of the distributed system each have a copy (instance) of the entire database. Once a new transaction event occurs, it has to be updated at each of the instances, which may be accessed by one or more nodes. A transaction is successfully ‘updated’ when each of the nodes has given their consent to the transaction. A transaction event finally gets reflected in the database or rather all instance of the database when all nodes with validation authority have accepted the transaction as valid. As such this process is time-consuming and even when a bona fide transaction event happens, there is only a probabilistic finality of settlement. In many situations, the final settlement can actually take several hours.

Within DLT, the specific workflow, which enables the consensus/validation, differs leading to different type of DLT. As such a validation framework based on simple majority (with each user/node having one vote) would expose the system to attackers who would simply proliferate nodes to game the system. To take care of such possibilities, complex validation protocols were developed. One framework of validation is ‘*Proof of Work*’(POW) where the ‘proof’ consists of solving mathematical problems requiring significant computation power, thereby increasing the hurdle of one or a small number of attackers to game the system. Another competing validation framework is a “Proof of Stake”(POS) based consensus . The rights of validations of the nodes depend on their stake in the system. The measurement of stake also has several alternatives in the sense the stake can be measured by the number of token/cryptocurrency the nodes own or number of units of cryptocurrency the node is willing to bet on that transaction.

While thus far we would have got an idea of the distributed nature and technological aspects, one question still remains unexplored. Why is it called a ‘ledger’ as opposed to a database? Ledger usually refers specifically to a functionality of a database where one keeps track of which entity owns how much on a product/value/unit and

subsequently how those units are getting spent or further units accumulated. The concept of Ledger is very critical for a non-physical/digital currency, operated in absence of a trusted authority, to prevent double-spending of the same unit.

Efficiency and Choice of Access and Validation: A DLT can be further characterized on two dimensions: i) Accessibility and ii) Validation Right. In terms of accessibility the options are broadly two namely *Public*, where any user is allowed to read/view the ledger and *Private*, where access is limited to users with explicit access rights. Validation rights refer to who can validate or make changes in ledger. Here the two options are, *permissioned* where only a subset of all users who are specifically identified can validate/modify the ledger. The other option being Permission-less where all users are allowed to add/alter/validate the ledger

The way popular cryptocurrency transactions are facilitated by Blockchain typically follows public, permission-fewer frameworks. Needless to say this process takes a lot of time and computation power. From a user perspective when bank money is transferred, it takes seconds or few minutes to confirm the transaction to the parties. In DLT the transaction confirmation sometimes takes hours. Financial services are used to electronic payment networks which process upwards of 25,000 transactions per second. In comparison large block chain network processes less than 10 transactions per second.

However, for the purpose of a mineable Global Reserve Currency it may be envisioned that it will be a Private and Permissioned protocol, so speed of the transactions may not be an issue. As such an idea such as MGRC may take at least a couple of decades to implement unless of course there is a major crisis pushing global consensus on such a move. While the technology around DLT and Blockchain is close to a decade old and certain commentators still consider the scalability and power usage as a bit underwhelming, it may be hoped that these issues will be resolved with time.

Economics of Cryptocurrency: Currency is a subset of a broader economic concept of money. Currency is the ‘token’ which facilitates movement of money, shifting its purchasing power from the current holder to its future holder. Currency facilitates the exchange feature of money i.e. payment. Currency, driven by technology has evolved into several forms; from good old cash/coins, to electronic money and more recently cryptocurrency. Currencies are typified by key features namely physical existence, issuer, ultimate liability, universal accessibility and peer-to-peer exchangeability. Cash ticks most boxes i.e. exists physically, issued by central banks with ultimate liability being that of the government, universally accessible within the jurisdiction and can be anonymously ,at zero cost, used in peer-to-peer exchange. Electronic money represents electronic payments facilitated by banks, payment networks differ from cash as they do not have physical existence and finally, peer-to-peer exchange are tractable by authorities and hence anonymous like cash.

A Cryptocurrency addresses the need to enable peer-to-peer anonymous transaction on the lines of cash. However cryptocurrency provides this anonymity in online/electronic transactions which credit card/debit card/internet banking based payments cannot. This explains the ‘crypto’ aspect of the cryptocurrency.

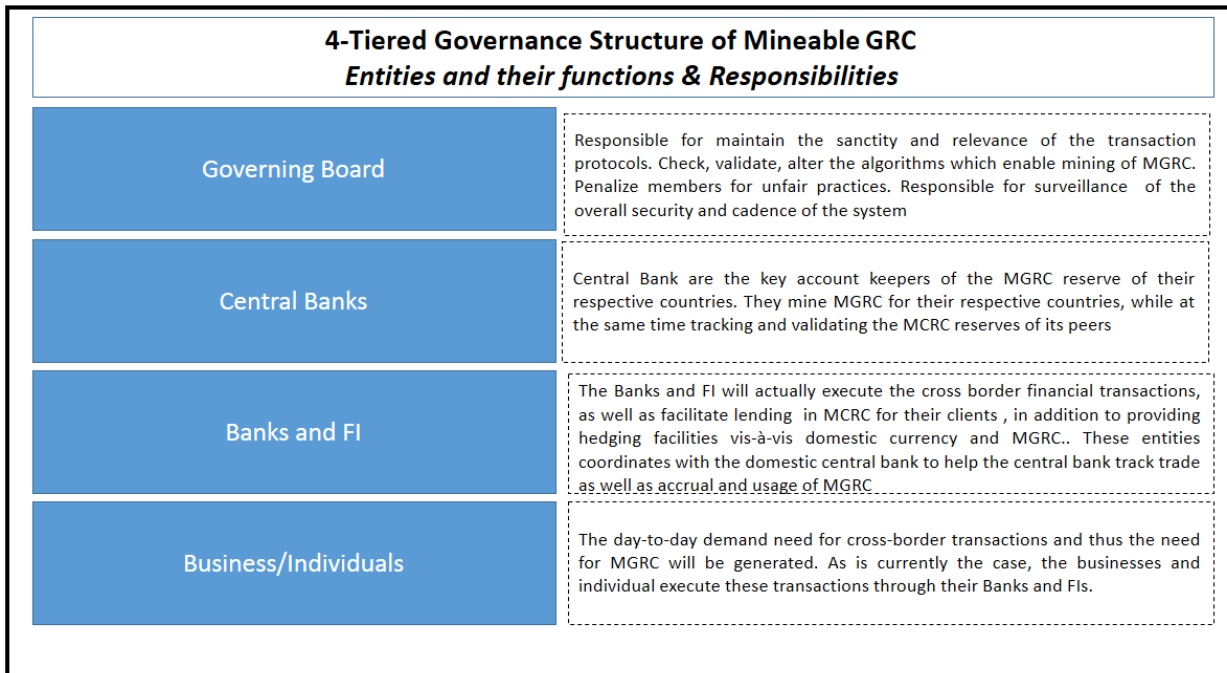
Suggested Framework of a Mineable Global Reserve Currency (MGRC)

The first version of Basel norms (Basel I) had, in comparison to the current banking regulations, relatively simpler framework for capital requirement. Still it took 14 years of negotiation (started in 1974, as Basel Committee on Banking Supervision) by central banks of the group of 10 countries (7 European, USA, Canada and Japan). These countries had largely similar econo-political orientation. If typical WTO negotiations are anything to go by, a coordinated, globally synchronized effort to create a new monetary framework would easily take a couple of decades. Previous instances of synchronized effort to shift to a new monetary regime took earth-shattering events like a couple of World Wars. So technological feasibility of a MGRC is the least of the roadblocks. However, the frequency and intensity of the debate around the MGRC can increase since it is an issue of global political intent and not of technical ability.

The proposed framework is dependent on the current state of technological sophistication of the DLT. It is not expecting any significant improvement on the same. Since Keynes had designed the first detailed framework, the proposed framework, in his memory, may be called International Currency Union-ICU and the MGRC may be named as WorldCoin

Governance Structure of ICU: The ICU may consider a four-tiered administrative structure. The overall enablement and infrastructure support may be under the **Governing Board**. The Board would have representatives from all members; however a sub-group selected by rotation may make the core decisions on an ongoing basis. The stewardship of the core decision-making group may be rotated on a periodic basis among member countries. The Board would interact directly with the respective **Central Banks** of the member nations.

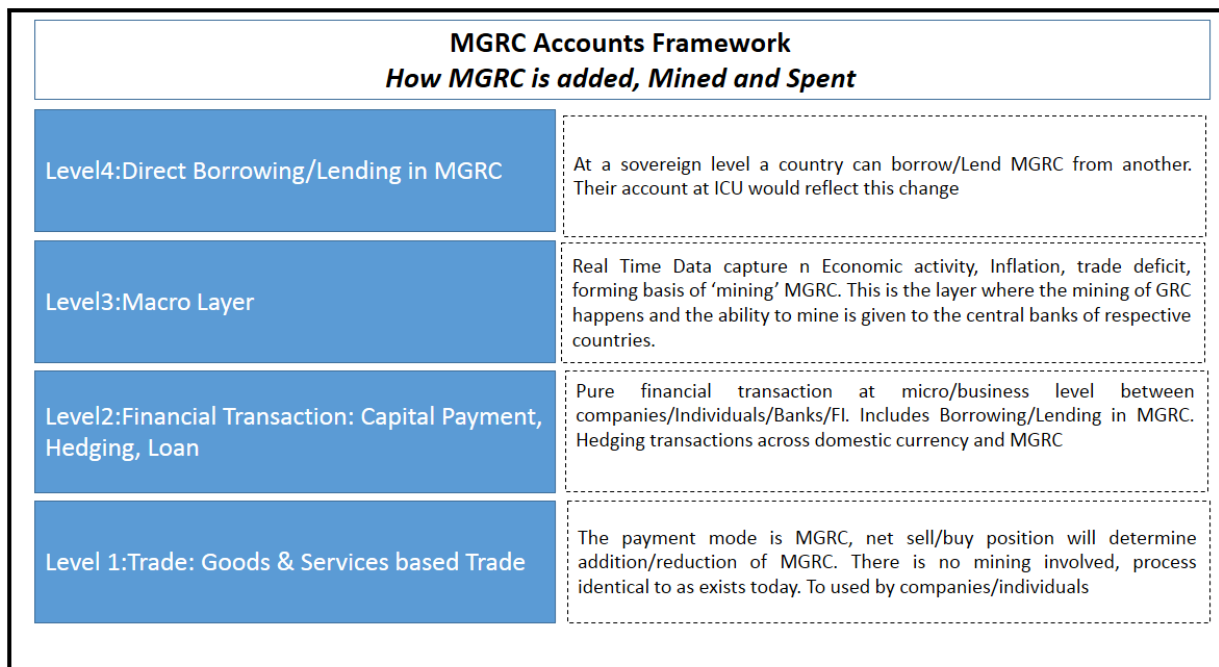
The central banks would be responsible for maintaining the accounting and cadence framework, which will justify the conversion rate of local currency with respect to MGRC. Most importantly, the central banks are the entities who will be responsible for actually ‘mining’ the MGRC based on the trade and macro parameters. Central banks are best placed to do so since in most countries they are directly responsible for determining their domestic money supply/credit supply, which ultimately influences inflation and growth.



Banks and Financial Institutions regulated by their respective central banks will facilitate the transactions in MGRC. Specifically, these regulated financial institutions will be responsible for executing cross border financial transactions where the underlying is MGRC. Foreign currency transactions being facilitated by domestic banks is also the case today, under the proposed scheme of things the foreign currency will be replaced by MGRC.

Operational aspects of accruing and accounting MGRC: The central banks would be responsible for keeping track of the MGRC account with respect to its country. The MGRC reserves of a country will keep on fluctuating constantly, for reasons pertaining to business and economy, which will largely be same set of reasons which cause fluctuation in value of current reserve holdings. Currently, typical reserves of most countries constitute some combination of USD, SDR or currencies in SDR and Gold. An incremental source of accruing MGRC will be ‘mining’ the MGRC based on positive trade/cross country financial trade data.

At the lowest level (*Level 1*), demand (outflow) and supply (inflow) for MGRC will be attributable to trade of Goods/services between businesses/individuals domiciled in different countries. A net positive export (by value) will cause the country to earn(net) MGRC and increase its MGRC holding while the opposite impact will happen if the country is a net importer. The trade (payment aspects, specifically) will be facilitated by banks and financial institutions, as is the case today. Under a proposed MGRC framework, the business will earn or spend in terms of MGRC (as opposed to, say, USD/EURO/JPY today) and they may be allowed to hold MGRC accounts with the bank. For calculation of profits or financial reporting purposes, the conversion rate of MGRC with respect to the local currency needs to be used. For that matter if a business/individual wants to convert its/his MGRC holding into local currency, and vice-versa, it can be execute based on the conversion rate.



The *Level 2*, consists of financial institutions which will facilitate international trade related payments. This intermediation function will not incrementally alter the MGRC reserve of the country over and above what is contributed by the underlying business and trade. However, to the extent these financial entities start providing MGRC related hedging tools (against change in conversion rate of local currency vis-à-vis) and loans denominated in MGRC, they will affect the MGRC reserve of the country. For the MGRC loans extended to businesses/individual by their respective domestic banks, the domestic bank may disburse the MGRC loan from various sources such as its own MGRC account, it may borrow from the central bank, or it may borrow MGRC from another domestic and international bank for onward lending. This is also the layer, which will absorb the capital inflows/outflows. Thus if FDI flows into a country, denominated in MGRC, this is the layer which will facilitate the monetary elements of the transactions

Level 3 is the layer where only the central banks of respective countries operate. Central banks constitute the only entities which are allowed to mine the MGRC and add to the country's MGRC. The mining algorithms may be determined by macro factors' such as inflation and fiscal deficit. Recall separate capital account deficit or trade deficit need not be considered in the mining algorithm as their impact on MGRC reserve will be deterministically captured in Level 1/Level 2 .

Level 4 is the topmost layer, which can add/reduce the MGRC reserves. This is bilateral borrowing between nations. For example, nations whose demand of MGRC is rising much faster than their ability to earn the same and who have weak economic parameters which prevent them from mining new MGRC, the MGRC will appreciate sharply against their domestic currencies. In such cases the country in crisis may borrow MGRC from another country with comfortable MGRC reserves. Such borrowings would increase the MGRC reserve of the borrower and reduce MGRC reserve of the lender.

Operational Details of Cross-Border MGRC Transactions: If a business in a country wants to make a payment to a foreign company/individual through MGRC, the set of transactions will be analogous to the transfer of money from one bank account to another bank across the border. In the current framework, the DLT will enable live tracking of the MGRC account at not only the business or bank level but it will get updated at the Central Bank level, so that ultimately the Governing Body of the ICU knows the MGRC holdings at country level. Additionally the countries are aware of each other's MGRC level that will build higher level of trust and would address issues of currency manipulation.

Conclusion: The option to have a Global Reserve Currency, which is not issued by any one sovereign, needs to be actively discussed. In the scheme of things, the entire world paying seigniorage to a single country is possibly the least of the issues. As Keynes has identified the problem with a single sovereign issuer of reserve currency, which used to be the case with UK and Pound Sterling prior to 1930, the system can operate 'well' only when the issuer country runs a large deficit. This imbalance attributable to continuously running deficits, even in absence of a major economic shock, will push the issuer towards a deflationary economic environment. In the event of a major crisis such as in 2008, US had to resort to unconventional monetary policy in a bid to prevent a repeat of the 1930s recession. Not just US, issuers of major currencies such as Pound, Yen, Euro have adopted some version of unconventional monetary policy. These countries will gradually try to move towards normal monetary environment (i.e., non-zero interest rate, no excess liquidity via quantitative easing) This 'normalization' of monetary policy may reduce funding liquidity, and also limit credit/money supply. The steps and the outcome are largely outside the domain of usual hypothesis/deductive reasons applicable to prevalent macro thinking. It may be fair to assume that each of these countries will try to safeguard their own national economic interest before anything else.

If the unwinding of the existing near zero interest regime and normalization of a liquidity deluge environment is relatively painless for other countries, then possibly there will be not much trigger for discussion of a country neutral GRC. However, if there are widespread market disruptions or economic shocks, that may provide an opportunity to discuss GRC, which is independent of the fortunes of an issuer country. In fact, a country-neutral GRC may prevent foreign currency contagion in emerging nations. It would of course mean a shift towards a new monetary regime globally and may potentially challenge or disrupt the functioning of FX currency markets particularly its most important constituency- FX traders.

The DLT comes closest to providing the ideal technological infrastructure for MGRC. To enable transparent, real-time tracking of reserves as well as 'mine' the reserve currency without day-to-day centralized intervention by any authority, a Blockchain like data architecture may be useful. Apart from building trust in the system it will reduce dependency on the economic fortunes of any one country. To the extent that the Central Banks themselves

will be the direct users of this peer-to-peer system, the information is unlikely to be used by manipulative elements in currency markets.

As far as using the concept and framework of MGRC is concerned, the framework can be tweaked to create a two-tiered monetary structure say for instance in Eurozone. Where the Euro can become a currency of exchange in trade in Eurozone (as of course is the case currently) but each country have their own currency mapped to a 'Mineable' Euro. In a relatively smaller scale, the same framework can be used by multilateral trade bodies to keep track of accounts/as well as payments based on mineable currency as opposed to using global reserve currency or the currency of the largest trading member in that trade bloc. The MGRC may possibly, if and when implemented, turn out to be the most important use case of DLT.

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VOICE OF AMERICA**Competition, Computation and Regulation****Ayan Bhattacharya**

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Competition – and regulatory attempts to maintain competition in the marketplace – has dominated the US business airwaves lately (along with tariffs, which really have become more political than economic). Judges have approved AT&T’s purchase of Time-Warner creating a content and distribution behemoth. Disney and Comcast are in the final stages of their battle over Fox. The Federal Communications Commission has disbanded net neutrality rules. Facebook has been repeatedly hauled to the Congress and Senate over the misuse of its social-networking monopoly. US states can now charge a tax on goods delivered by online giants like Amazon. The list goes on. The sub-text in each decision is competition — or the lack of it.

What is interesting in the recent spate of decisions is the lack of a clear consensus among the powers that be about the effect of a lack of competition. There was a time when monopoly meant exorbitant rent-seeking and shoddy services. Yet the Amazons of today seem to offer excellent service at reasonable prices despite their dominant positions! Something fundamental seems to have changed in the marketplace in the last decade or so, rendering competition less relevant. That change is the power of computation.

1. Free Competitive Markets

The origins of the modern approach to regulation lie in the free market philosophy in economics best espoused in Friedrich Hayek’s seminal 1945 paper, “The Use of Knowledge in Society” [1]. Hayek argued that freely functioning competitive markets were way better than centrally planned systems because it was practically impossible for centralized system to collect and process all the information needed to come to optimal decisions at the aggregate level. Centralized systems thus led to bloated, shoddy and inefficient institutions, with dissatisfied participants. Markets, on the other hand, delegated the task of information collection and processing largely to individual constituents like the firms or consumers. This made the problem more manageable, and thus led to much better outcomes.

Of course markets had to be competitive to create their magic. Later economists showed, however, that markets might not always stay competitive if left to their own devices. For instance, there could be information asymmetries, externalities, incompleteness, and a host of other factors that might lead to market failure. In the second half of the last century, uncovering a new cause of market failure was almost a sure shot way to academic stardom and a Nobel. Thus arose the need for regulation: to keep markets competitive and well-functioning. For non-competitive industries meant outrageous prices for inefficient — often non-existent — services and products. Any middle class Indian who lived through the license-raj era of the 1970s and 80s would attest to that.

2. The Power of Computation

The smartphone that we carry in our pockets today come equipped with far more computational power than huge computers that filled complete desks two decades back. In addition, the smartphone records so much data that it probably knows more about us than we ourselves! All businesses, too, now have electronic records, and many maintain their data on the cloud. In fact, in today's world almost every activity that we engage in, either as individuals or as collective entities, generates an electronic trail. And any data recorded digitally is computable, contributing to the corpus of “big data”. The revolution wrought by machine learning and artificial intelligence algorithms has furnished firms and institutions with the power to process this big data in real time.

Bear in mind that the superiority of the competitive market system in Hayek's argument arose from the lack of data and lack of computation power at aggregate levels in centralized systems. The moot question then is this: How far is Hayek's original argument tenable in today's modern, “computable” social systems? The frank answer is that we do not know. Ambivalence thus arises at every level of aggregation: should we insist on a well-functioning, competitive market to aggregate and process underlying information – as we always have – or do the entities involved have sufficient computational muscle to do all the heavy-lifting even without markets? Researchers are still coming to terms with the many implications of this fascinating problem.

3. Regulating In Uncertain Times

At the forefront of this ambivalence sits the practice of market regulation. For a concrete example, take the case Amazon in the US, a virtual monopoly in the online retail space. Should regulators consider breaking up the behemoth into smaller entities to create more competition? But that would reduce the amount of data and computational resource available to each new baby Amazon. And that, in turn, could make consumers worse off if this is an aggregation problem better solved by the parent (giant) Amazon compared to competitive markets! No one seems to be sure of the right answer.

Beyond the staid practicalities, this question seems to have deep philosophical implications for how we organize as societies. In a certain sense, a democratic electoral system is a competitive market for ideas. The success of the Anglo-American model of governance persuaded many nations to move towards democratic arrangements. Yet, in recent years, the Chinese system — much more regulated and centralized than the West — seems to be producing stellar successes on many different fronts.

4. The Path Ahead

Regulators have been trying to evolve in response to the changing landscape. In many domains these days, regulators collect and process more data than the regulated entities. Securities Exchange Commission, the US financial market regulator, for instance, runs an operation that can put many high frequency trading firms to shame. At a deeper level, the vocabulary of regulation seems to be changing. Issues like privacy and transparency seem to be climbing up the priority list of regulators worldwide. These are lexicon of the computational age and such concerns were non-existent even a decade ago. For example, General Data Protection Regulation in Europe, more popularly called the GDPR, is a landmark bill restricting the collection of information online. In India, too, the expansive Adhaar act seems to be getting crimped in the courts on concerns of privacy.

Yet however much they evolve, challenges for regulators in the computable economy remain far from simple. While in many domains data seems to be centralizing, in others areas there seems to be a perplexing push for decentralization. Bitcoin, ethereum, and the many hues of alt-coins, along with the blockchain infrastructure, represent a completely new test for regulators worldwide. It still remains unclear if these new frameworks are just a response to lack of adequate regulation on centralized rent-seeking, or if they, in some way, represent a fundamental break with the market system as we know it.

Despite all the uncertainty, one eventuality looks certain: the modern economic machinery will increasingly run on the fuel of data. Thus many researchers believe that just as competition dominated the regulatory landscape in the last century, managing information flows in the computable economy will become the dominant agenda for regulators in the early decades of this century. In the English dictionary competition and computation differ by just a single letter. However, in the regulatory universe the difference in the two words heralds a fundamental revolution.

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[1] F. A. Hayek (1945). *"The Use of Knowledge in Society," American Economic Review*, 35(4), pp. 519–30.

A Note on Microsoft's acquisition of GitHub

Ashok Banerjee



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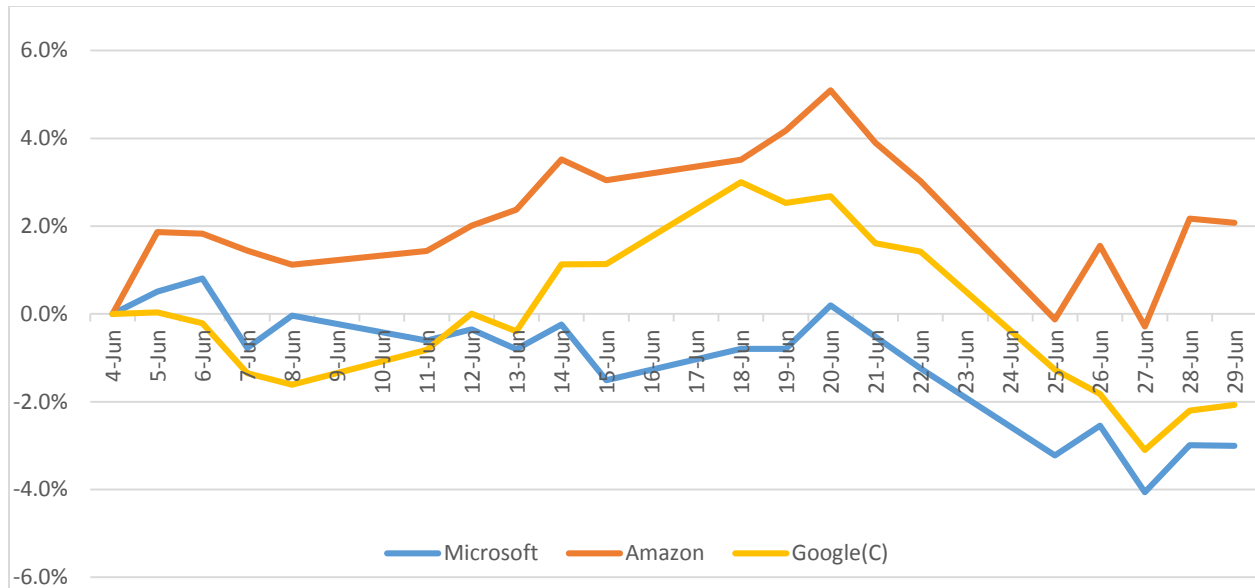
On June 4, 2018 Microsoft announced its acquisition of GitHub in an all-stock deal for \$7.5 billion. GitHub is an open source software development platform with more than 28 million developers. GitHub platform allows developers to learn, share and collaborate on software development. Microsoft, through this acquisition, has demonstrated a significant shift in the company's policy under the leadership of the five-year old CEO, Mr. Satya Nadella. Unlike his predecessor, the present CEO believes in the power of networking and knowledge sharing. The GitHub deal provides an opportunity to Microsoft to accelerate growth of its cloud product Azure by combining cloud and open source platforms. A recent Bloomberg report⁸ mentions that Fortune 500 companies prefer a hybrid cloud (a mix of public and private) model. These companies have invested heavily to create their own storage (private cloud) system and hence it is not easy for them to move everything to public cloud. Public cloud, at \$132 billion, accounts for only 10% of the enterprise tech spending on software and IT services (excluding devices). But the public cloud market is growing at a fast pace. In this backdrop, the acquisition appears to be strategically well-timed. Two interesting questions surround the deal at this moment: (a) why has Microsoft not gobbled up GitHub in cash? and (b) is Microsoft overpaying?

Let us first look at the details of the deal. According to information available so far, GitHub, after acquisition, will maintain operational independence and will remain an open platform. The co-founder and the present CEO will join Microsoft as a technical fellow. Microsoft also announces that it will increase the speed of share buyback to offset any immediate dilutive impact of the deal on the earnings per share (EPS) of the company. At a market capitalization of close to \$800 billion, Microsoft's stock offer for the owners of GitHub implies a less than 1 percent dilution in equity. The latest balance sheet of the software giant showed that it has a cash balance of \$130 billion. Yet it is paying GitHub in stock. Is it really a stock acquisition? A careful look at the deal details will show that Microsoft is actually paying in cash- not to the owners of GitHub rather to its existing shareholders!

⁸ Hybrid is preferred model for legacy clients, Bloomberg 25 June 2018

The accelerated share buyback will increase the cash outflow to existing shareholders and the shares so bought back will be used to pay for the GitHub deal. A natural question could be why this round tripping? Why not directly pay cash to GitHub founders and investors? One popular explanation for this type of financial engineering could be that stock acquisition of GitHub might have had a negative effect on the share price of Microsoft and hence any subsequent share repurchase would be cheaper for the company. This exercise would eventually lead to offsetting any fall in the share price of Microsoft. However, this explanation does not hold good for the present deal. The stock market reacted positively to the deal. The reason for offering shares to the owners of GitHub lies elsewhere. GitHub was co-founded by three individuals who jointly hold about half of the company's equity and the balance is shared among four venture capital funds. Therefore, each shareholder owns a significant proportion of equity and any cash payment in the deal would immediately cause huge tax burden on the founders and owners due to capital gain. For example, a private American venture capital firm had invested \$100 million in GitHub in 2012. The firm would now receive Microsoft shares worth \$1 billion. Had the amount been paid in cash, the firm would be burdened with huge tax liability. Therefore, one compelling reason for the stock-deal is to make it tax efficient. The other reason could be the insistence of the present owners to participate in the future growth of GitHub.

Has Microsoft overpaid? The last round of fund raising by GitHub in 2015 had put its value at \$2 billion. Microsoft's offer is almost four times of the last valuation- a significant increase in three years. It is difficult to get details of financial performance of GitHub, being a private company. The company had reported an annual turnover of \$130 million in 2016 and media reports put the revenue number for 2017 to \$178 million. Assuming similar growth rate in revenue for 2018, the Microsoft's offer represents a revenue (price-to-sales) multiple of thirty. In the recent past, Microsoft had acquired LinkedIn at a premium of close to 50% of the market price with a price-to-sales multiple of eight. Analysts had then dubbed the LinkedIn acquisition a costly one and yet market reacted positively to the acquisition. The immediate reaction of stock market was positive for the GitHub deal- Microsoft's shares were up by 0.2% at the close of 4 June 2018. Interestingly, Google's share price fell exactly by 0.2% on the same day. Apparently, Google was also talking to GitHub for a possible acquisition and Microsoft did not want to take the risk of losing the target to its competitor. In the bargain, GitHub perhaps got a higher multiple. The negative reaction to Google's stock implies that this may turn out to be a costly miss for Google. However, if one looks at the short-term market reactions for the entire month of June 2018 (Figure 1), Microsoft stock did experience a steady decline in next twenty days. Google, on the other hand, had overcome initial negative reaction pretty quickly.



Source: Bloomberg⁹

Does the Microsoft's bet on GitHub send any signal to Indian software giants? The deal clearly shows the future direction that any agile technology based company needs to take. The long-term sustainability may lie in innovative cooperation with developers and even competitors.

⁹ Author thanks Mr. Bobbur Abhilash Chowdary, a PhD student at IIM Calcutta for computational support.

MARKET WATCH**SME Market Correction: Is it the right time to build a portfolio?**

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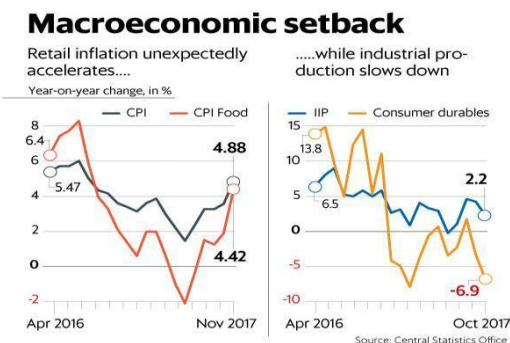
2018 has seen the BSE Small & Midcap Index consistently underperforming benchmark indices declining by about 30% in the past 6 months. 67 Indian Small Cap stocks have taken a hit of 50% or higher. Nifty has taken a



hit of more than 7%. Furious debates rage regarding whether the correction is a response to weakening global markets and the need for a safety haven in uncertainty or a rebounding of an overstretched and over-optimistic stock valuations.

The first quarter of 2018 has been characterized by global turbulence caused due to rising interest rates after the initiation of first leg of quantitative tapering in in the US, the anticipation of an interest rate hike and higher inflation in the UK with ongoing Brexit negotiations and a weakening Yen has led to investors frantically exiting Emerging Markets.

Coupled with this is the fact that 2017 saw an irrational exuberance with double-digit returns far exceeding the valuations deemed for the underpinning earnings growth. Nifty rose 22% while the Sensex rose 29.58%. The BSE Small & Midcap index rose 60% giving investors tremendous returns over the period. It was a gold rush for most short-term traders as even a blind gamble yielded positive returns. Despite higher earnings growth in the aftermath of recovery from demonetization, the resultant stock valuations way exceeded underlying earnings.



The correction due to overvaluation has led to fear in retail and foreign investors regarding a free fall. The exit from SME stocks has further fueled the fall. Fear regarding a crash akin to 2008-09 is leading to an exit from all EMs as a flight to a safe haven. Rising interest rates in developed economies is making this flight all the more imminent.

However, the shock to Small and Midcap Indian Markets is much higher than the MSCI Emerging Market SMID Index which took negative return of -8.45%. This may be an indication of the fact that overvaluation is the key reason for the higher hit Indian Small and Midcap has taken.

Is this hence a bubble that burst before too much collateral damage was caused? Several Indian analysts warned of an impending crash as the bubble of irrational valuations burst. Industrial growth had nearly stagnated and sectors like pharmaceuticals and IT have been battered. Oblivious to these developments the markets hugely rewarded SMEs with skyrocketing valuations despite no indication of current earnings or future potential to substantiate the same.

Amidst this mayhem, the Finance Ministry is unwilling to increase spending so that fiscal prudence is maintained and deficit is controlled. Upcoming elections raises the uncertainty regarding policy stability and reform measures required to transition the country from high growth, low per capita economy to a medium growth mid-income nation.

Sector wise analysis shows that banking sector faces most headwinds due to asset quality issues, rising yields and credit growth and midcap IT, logistics and tourism sector is in the process of revival due to spread of online channels and implementation of GST.

Overall the question is, whether it is a time to fear the SME stocks and rush towards the safe haven of large cap stocks or is it the perfect time for one to jump into the bandwagon and build one's portfolio?
