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A NEWSLETTER OF THE FINANCE LAB

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Indian Institute of Management Calcutta

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Editorial

The Union budget 2016 has clarified government's stand on retrospective tax and plugged several gaps on tax implications for overseas and domestic investors. Another area which got major thrust in the budget is loan recovery institutional mechanism. RBI is issuing directions and signals to banks to be proactive on loan recovery. SEBI has also been active in past six months observing behaviour of market participants mainly algo traders. It is expected that a report on algo trading will be released by SEBI next month. Hence we expect more actions from regulators of financial markets in next six months.

The fourth issue of Volume 3 of *a₹tha* has four articles. In the first piece, the author highlights the relevance and case of Bitcoin as a medium of exchange in place of paper currency and even traditional electronics payment modes. The second article analyses the financial sector reforms announced in the Union Budget 2016-17. The author shows that while all these proposals are extremely important, these proposed reforms could suffer from a syndrome of inability to finish the last mile. In the third article, author discusses the gold monetization scheme (GMS) launched on 5th November 2015. GMS is launched by the Indian government with the objective to mobilize the idle gold for the productive use. Through GMS, government is expecting to consolidate gold reserves which may be use for the currency stability and for the other purposes. The fourth piece is on the current NPA situation and the author concludes that India's current NPA crisis is yet to reach its peak and even if the bankruptcy code is enacted it will not provide any immediate help.

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

Happy reading!

Ashok Banerjee

A Bit of Bitcoin

Ashok Banerjee

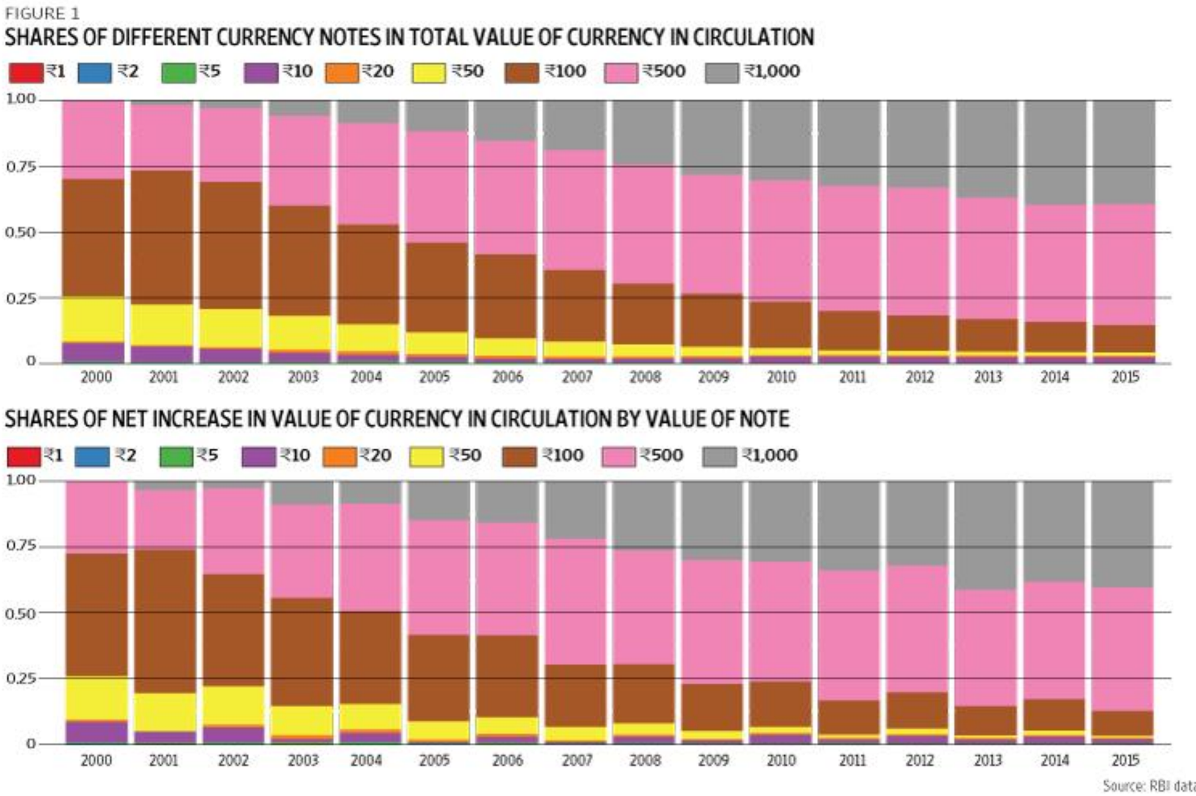
Ashok Banerjee is a senior Professor in the Finance and Control group at IIM Calcutta. He takes several advanced courses in Finance like Corporate Financial Reporting, Corporate Finance, Corporate Restructuring, Quantitative Applications in Finance and Trading Strategies. He is also the faculty in-charge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

Germany is considering abolishing €500 notes and introducing a €5,000 limit on cash transaction in order to cut off terrorist financing in Europe. In 2012 Spain banned all cash transactions above €2,500. Italy and France have already outlawed all cash transactions above €1,000. Norway declared that it will be cashless by 2020. Many banks in Norway and Sweden do not carry cash. Therefore, increasingly many nations are moving towards electronic payment systems thereby forcing citizens to leave audit trail of every transaction. This is quite useful for the regulators to track any terrorist spend and also for the market analysts to analyse abnormal spending behaviour of consumers. Government would be able, through elective payment systems, to electronically observe and regulate all economic transactions. This would in turn help any government in framing budgets and social schemes. This system of paperless spending would also, hopefully, remove black money from the system. The need for and cost of printing notes will also be reduced. Japan and European Central Bank have lately announced negative interest regime. This implies that banks would charge interest to the depositors. Similarly, the central bank would charge commercial banks for putting money with the central bank. Therefore, negative-interest policy is an effort to force banks to provide more loans and thereby help economic growth. Many investors, in a negative interest territory, would take their money out of the banking system and this is a big worry. Therefore, one way the regulator can force people to keep money with the bank, even in a negative interest scenario, is to make it difficult or illegal to withdraw money. This is possible by banning cash transactions! Another option seriously being considered in Germany is to tax any cash withdrawals in order to encourage people to keep their cash with the banks.

Closer home, the Reserve Bank of India is also contemplating banning older paper currencies (before 2005) and experts are of the opinion that following European examples, India should abolish ₹1000 notes for similar reasons. However, an analysis[1] shows that the cost of banning paper currency of denominations ₹1000 and ₹500 is quite high (Figure 1). It may be observed that the share of larger denomination notes has been on the rise and so is the net increase in the value of currency. Hence if RBI decides to withdraw these paper notes of higher denominations it may have huge impact on the notes in circulation. Also the cost of printing larger denomination paper notes is lower compared to smaller denominations. However, these arguments do not hold ground against larger cause for banning paper currencies. Higher denominated currencies can always be exchanged for lower denominations. Alternatively, the Reserve Bank may encourage electronic payments for higher value consumption/investments.

Use of plastic (electronic payments) or phone has become more widespread globally to make payments mainly for its convenience. But paper currency is popular among many citizens- those who do not trust the banks or the government. Many individuals consider government's decision to ban cash transaction as interference with one's freedom- freedom to hold cash outside the banking system. Freedom from government monitoring and control. The urge for such freedom is more in countries under rule of dictators and with weak banking system. This is true that small investors or ordinary citizens would not be affected much by withdrawal of higher denomination currencies from the system.

[1] *http://www.livemint.com/Politics/fhNlITluEPxCOHef3GSA6H/Scrapping-Rs500-Rs1000-notes-a-costly-idea.html (accessed on 29 March 2016)*



Source: *http://www.livemint.com/Politics/fhNlITluEPxCOHef3GSA6H/Scrapping-Rs500-Rs1000-notes-a-costly-idea.html (accessed on 29 March 2016)*

Problem with third-party payment system

All electronic payments presently have to rely on financial institutions serving as reliable third parties to process payments. Typical examples of trusted third parties are Visa, Mastercard, and American Express. When an electronic payment is made for a transaction between a merchant and a consumer, these third parties act as middlemen to settle the payment. The middleman may at any time and for any reason reverse the payment regardless of the contract between trading partners. For example, a customer, not satisfied with the quality of the product, may ask for refund from the merchant. If the merchant fails to oblige, the same customer may approach the 'trusted' third-party (Visa, Mastercard etc.) to reverse the payment and the third-party may oblige the customer. Another problem with third-part payment is exorbitant cost that a merchant (or at times a customer) has to bear. The payment processing fee can be anywhere between 1.5% and 2.5% of the merchandise value which could be quite prohibitive for small traders.

Enter Bitcoin

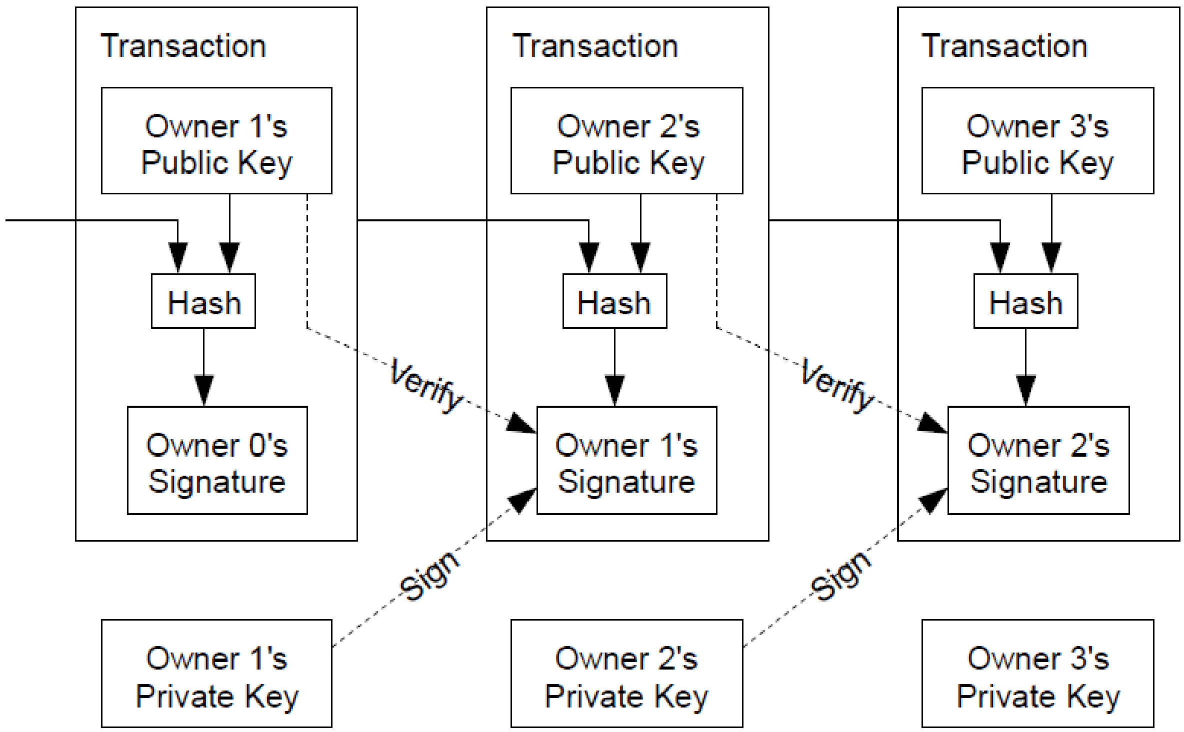
Money started in modern times in gold and silver. In other words, the famous gold standard would require pledging of physical gold against issue of new currency. Later, gold standard was abolished and today the value of money depends on its purchasing power which is largely subject to the whims of planners and government. Money (paper currency) is increasingly becoming notional with wire transfers and payments through debit/credit cards. The computer geeks were working since 1990 to come up with digital currency which would not require any vault or storage facility. The problem with initial experiment was that any digital version of currency was reproducible and hence was vulnerable to double and triple spending. Reproducibility may be a good thing for an object of art- a painting or a song. But unlimited use of a digital instrument is a major impediment as a medium of exchange. A currency is useless unless it is scared and its replication is controlled. Enters Bitcoin!

Bitcoin is a digital currency that operates in a peer-to-peer network without the requirement of a third-party vendor. The payment processing costs for such currency is also negligible. Another advantage with Bitcoin system is almost no possibility of reversal of transaction. The absolute privacy of transaction also makes it attractive. How does Bitcoin work?

Traditional currencies are mostly issued by central banks. Bitcoin has no central monetary authority. Bitcoin replaces a trust-based model (Visa, Mastercard etc.) with a payment system based on cryptographic proof. Such a system allows two willing parties to trade directly and settle payments without the need for a 'trusted' third party. Bitcoin was launched in 2008 by an unknown Japanese with a pseudonym Satoshi Nakamoto[2]. This represents the first successful implementation of a crypto currency. The electronic payments by the Bitcoin are performed by generating Transactions that transfers the Bitcoin between the two peers of the network. Each owner can transfer the coin to the next by digitally signing a hash of the previous transaction and the public key of the next owner and adding these to the end of the coin. A payee can verify the signatures to verify the chain of ownership[3]. Every Bitcoin has an owner and each owner has access to full ledger of all Bitcoins. This helps anyone in the system to check the title of each

[2] Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System, https://bitcoin.org/bitcoin.pdf*
[3] Ibid p 2

Bitcoin and thereby ensures that one coin is not used more than once at the same time. Nakamoto put a limit on the number of coins that can be mined (21 million by 2140).



Source: Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System, https://bitcoin.org/bitcoin.pdf

Interestingly, Bitcoin went live on November 1, 2008 at the peak of financial crisis. Following financial crisis several governments have bailed out companies and banks by printing notes and thereby pumping in more money into the system. It seemed that supply of currency is unlimited and hence lesser purchasing power. But Bitcoins are in limited supply and its public keys are strictly controlled and the ledger updated after every transaction. Its soundness could be checked constantly through instantaneous conversion to other currencies as well as to goods and services. In other words, one can own Bitcoins in digital wallet and use the same for buying goods and services. The market value of Bitcoins change due to demand-supply and also at times due to regulatory intervention. For example, during Greece financial crisis, government seized bank deposits to bail out the system and due to such stress on bank deposits, Bitcoin doubled in value.

Accounting System for Bitcoin

The integrity of the Bitcoin payment system rests on the reliability of the settlement process and ingenuity of every transaction. This is made possible by a robust system of accounting of every transaction in an electronic database, called *Blockchain*, which uses triple-entry accounting and consensus to establish ownership of bitcoin and validates payment. The traditional double-entry book keeping system mandates that every transaction affects two ledger accounts. Similarly, in double-entry system, a buyer and the seller records the same transaction as 'payable' and 'receivable' respectively. Over/under statement of revenue or expenses is rampant in corporate financial statements. Auditors, being an independent entity, have to examine and report that financial statements represent a true state of affairs of a firm. In discharging that responsibility auditors are required to match transaction in the ledger with appropriate documents and records to verify the genuineness of a transaction. One may very well imagine that this may become a humongous task for auditors of large and complex organisations.

The triple entry accounting system, as proposed for recording transactions through Bitcoin, is an improvement over the traditional double entry system. In this system all accounting entries involving outside parties (e.g., purchase of goods, payment of tax, utility bills) are cryptographically sealed by a third entry. Take example of a sale transaction. In a double entry system, the seller 'debits' cash and 'credits' income in one set of books. The buyer 'debits' inventory and 'credits' cash in a separate set of books. The matter ends there and there is no third party entering the same transaction. This is where the blockchain comes in to tie these two independent set of books of accounts. In a blockchain system, these entries are recorded in the form of a transfer between wallet addresses in the same distributed, public ledger thereby creating an interlocking system of permanent accounting records. Each transaction is thus entered in a distributed way and cryptographically sealed. Hence, misrepresenting any transaction or over/under invoicing is almost impossible. Therefore, in addition to double entry system (which would be carried out in respective books), a third entry will be maintained in an electronic ledger (blockchain) that is authenticated using cryptography and securely sealed. Auditors would find such system of accounting extremely useful as they need not bother about genuineness of any transaction under blockchain method. Hence, they can send quality time in verifying the internal control system and risk measures of any organization.

Bitcoin or any other crypto currency is not free from security concerns and liquidity issues. Money or currency is still popular because of its liquidity- it is available when you need it and it can be used as medium of exchange in most of the transactions. Since Bitcoin is limited in supply and all merchants do not yet accept Bitcoin, its liquidity is an issue to be addressed. Online wallets are more vulnerable to attacks and hence need to be encrypted. Double spending is still a major area of concern in Bitcoin. Though encrypted technology makes Bitcoin less vulnerable to abuse, one would need proper regulation to ensure that terrorist do not create a close network (through miners) to undertake transactions using Bitcoin.

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The Union Budget 2016-17, and the Financial Sector Reforms

Partha Ray

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The hype and hoopla about any Union Budget in India is phenomenal and almost unheard of anywhere else in this lonely planet. In consonance with the disproportionate media attention to the annual income expenditure statement of the Central Government, the Union Budget in India is often used as an annual policy announcements of the Government that goes beyond the normal perimeter of fiscal policy and book keeping of the Exchequer. The Union Budget of 2016-17 was no exception. While in terms of sublime, it was viewed as a a budget primarily with an agricultural or rural thrust, financial sector is an area where this year's Budget spent some space and tried to give some directions about the shape of things to come in Indian financial sector.

Specific Proposals

In terms of specifics, insofar as Indian financial sector is concerned number of policy prouncements have been done. Illustratively, in the realm of specific legal reforms, the Budget talked of three specific proposals:

a) introduction of a comprehensive Code on Resolution of Financial Firms;
b) amendments in the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act (SARFAESI Act), 2002 so as to "enable the sponsor of an ARC (Asset Reconstruction Company) to hold up to 100% stake in the ARC and permit non institutional investors to invest in Securitization Receipts"; and
c) comprehensive Central Legislation to deal with the menace of illicit deposit taking schemes.

The Budget announcement of permiting 100 per cent FDI and Sponsor ownership on ARCs is likely to boost the effectiveness of ARCs in resolution of distressed assets. The finance minister also indicated that the Bankruptcy code will be introduced during the year.

Statutory basis for a Monetary Policy framework

The necessity of a monetary policy framework has been emphasized by the RBI for quite some time. In fact, the government last year had proposed to set up a Monetary Policy Committee (MPC) consisting of representatives from the Finance Ministry and RBI, to decide on interest rate. Last year witnessed some controversy about the composition of the MPC. It was interesting to see that the Finance Ministered has announced to set up a Monetary Policy Committee through the Finance Bill 2016. RBI has already welcomed the move and Governor Rajan in his first Ramnath Memorial Lecture delivered on March 12, 2016 in New Delhi went on to say:

> "The RBI's inflation-focused monetary framework will be strengthened by the constitution of the monetary policy committee mooted in the Finance Bill. While the RBI Governor will no longer be able to set monetary policy unilaterally, I believe shifting the decision to a committee is in the economy's interest. Not only will a committee aggregate multiple views better than an individual can, it will offer more continuity, and be less subject to undue pressure. I believe the monetary reforms of this Government will stand out as one of its signal achievements".

Financial Data Management Centre

The idea of a Financial Data Management Centre is not new. It has been mooted by the Financial Sector Legislative Reforms Commission (FSLRC) in 2013. Subsequently a committee was formed by the Ministry of Finance, Government of India for looking into the creation of a repository of all financial regulatory data in September 2014. It is in this backdrop that this year's Budget proposed to set up a financial data management centre to facilitate integrated data aggregation and analysis in the financial sector. Here again while the idea is indeed welcome, one needs to see action on the ground to evaluate its efficacy.

Other Measures

Among the other measures, this year's Budget made the following announcement which have important bearing on India' s financial sector. First, the Budget has noted that new derivative products will be developed by SEBI in the Commodity Derivatives market. Second, RBI will facilitate retail participation in Government securities. Third, number of members and benches of the Securities Appellate Tribunal will be increased. Fourth, General Insurance Companies owned by the Government are to be listed in the stock exchanges. Fifth, target of amount sanctioned under *Pradhan Mantri Mudra Yojana* has been increased to Rs. 1,80,000 crore, whrein Micro Units Development and Refinance Agency (MUDRA) would provide funding to the non corporate small business sector for development and refinancing activities.

Bank Recapitalization

Indian public sector banks have been occupying newspaper headlines in recent times for the wrong reasons. Apart from specific corporate's irresponsible behaviour this is reflected in banking sector's bad loans. As per official data the gross non-performing assets (NPAs) of the Indian public sector banks have registered a huge increase - from Rs 53,917 crore in September 2008 to Rs 3,41,641 crore in September 2015. As a percentage of the total loans, NPAs has grown from 2.11 per cent to 5.08 percent. This called for huge need of recapitalizing Indian banking sector. It is in this context that the Budget announced Government's intention to allocate Rs. 25,000 crore towards recapitalisation of Public Sector Banks. This has boosted the public sector banks' stocks in the capital market. However, allocation of Rs 25,000 crore for recapitalisation of banks is only a patch with the total requirement identified at 1,80,000 crores by the Economic Survey.

How far are these announcements going to solve the problems of the present ailing financial sector of India? It may be too early to pronounce any judgement on these policy announcements as the devil may lie in implemental and outcome details. Thus, while all these proposals are extremely important, given that the track records of the present Government in terms of implementing legal reforms is not exactly very encouraging, these proposed reforms could suffer from a syndrome of inability to finish the last mile. Hence, apart of treating these as well-intentioned and lofty proposals, there is not enough evidence to evaluate these proposals at this juncture.

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Gold Monetization Scheme: An Investment Opportunity

Vivek Rajvanshi

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Gold as an alternative investment class is equally important as bond market and equity markets. It has been observed that gold not only provides enough returns to beat the inflation but also involves less risk as compared to equities and other financial instruments. Low or negative correlation of gold returns with the equities and other financial assets' returns qualifies gold as a natural investment instrument for diversified portfolios. In addition, during economic recession, when equity markets perform badly, it has been observed that gold provides safe heaven for investors and investments moves from equity market to gold market.

In India, gold is used in wedding gifts, religious donations and for investment purposes. India imports around 800 to 1000 tonnes of gold every year which is a major contributor (around 25% to 30%) of trade deficit. This is highest gold demand of any country in the world. As Indian importers need to pay in foreign currency, therefore it has impact on the forex rates as well. In order to control for the trade deficit, Government of India has launched several schemes in the past. In 1992 gold deposit scheme (GDS) was launched by the GoI, but low interest rates on gold deposit and a non-transferrable security feature and low participation of individuals were the two main reasons of the failure of the scheme. In the year 2013, GoI imposed excise duties, banned gold coins import. GoI also launched 80:20 scheme, where 20% of the gold imported must be exported in the same or other form. But reporting of export of substandard jewelry forced government to abandon 80:20 scheme. These schemes are not very successful and had a very little impact on the import of gold.

Why, gold Monetization Scheme?

As we mentioned earlier that India imports around 800-1000 tonnes of gold every year and it contributes significantly in trade deficit and current account deficit. It is expected that India has around 20,000 tonnes of gold worth around $ 800 billion lying idle with the households, banks, temples, trusts etc. Any scheme that can mobilize around 1% of the gold will bring down around 25% of gold import every year. This may help in stabilizing currency and trade deficit.

Earlier gold deposit scheme allowed minimum deposit of 500 grams of gold and therefore it was not attractive for the individuals and low worth investors. In the new scheme named gold monetization scheme (GMS) launched on 5th November 2015, investors are allowed to deposit minimum 30 grams of gold that may be either in the form of jewelry or bullion. Investors are exempted from any tax liabilities such as capital gain, wealth or income tax on the interest payments received on gold deposits. In spite of the benefits mentioned above, GMS had attracted only 0.9 tonnes of gold till 20th January 2016. To make it more successful government with the consultation of other stakeholders has modified the scheme and new guidelines has been issued through master direction on GMS on 21st January, 2016 by the Reserve Bank of India. The modifications allow premature redemption after three years for medium term gold deposits and after five years for the long term gold deposits. Investors can provide gold directly to the refiners or through the purity testing centers. In order to increase the number of licensed refiners, Bureau of Indian Standards (BIS) has relaxed the licensing conditions. Now licensed jewelers are also allowed to act as collection and purity testing centers. This move is expected to increase around 10,000 centers across the country.

Through GMS government is expecting to consolidate gold reserves which may be use for the currency stability and for the other purposes. Government can sell the collected gold in the open market or short the gold in the derivative market with a carry which may reduce the cost of financing for the government. In future, government can also issue financial instruments backed by gold which may provide cost effective and secure way of financing.

GMS will increase the supply of the gold which will help in decreasing the imports of gold and reduce the cost for jewelers. Investors will get interest on gold deposits which is lying idle. It will reduce the cost of storage of the gold and it will reduce security issues faced by households in keeping physical gold.

How to Invest in GMS?

The first step to invest in GMS is to get purity verification done through the hallmarking centers authorized by the GoI. Then, investors need to open a gold saving account with banks where investors can deposits the verified gold. The interest rate will be decided by the concerned bank and it will be around 2% per year. Investors can deposit gold for the short term (1-3 years), medium term (5-7 years) and for long term (12-15 years). Interest rate will vary depending on the maturity of the deposit. E.g, for the gold deposit for medium term of 5-7 years interest rate applicable is 2.25% and for the long term deposits for 12-15 years interest rate is 2.5%.

Banks can use the gold deposits for their CRR/SLR requirements and can also sell or trade in commodity market. Jewelers can also take gold loan from the banks after opening gold loan account. Banks can collect gold from investors for a maximum period up to 15 years and can accordingly auction or provide loans to the jewelers or industrialists.

Issues and challenges

As we mentioned earlier that around 20,000 tonnes of gold is lying idle with the households, trusts etc. Around 60% of this is lying with the rural households. However the scheme allowed to deposit minimum of 30 grams of gold but still for the purity test individuals has to come from remote areas to the authorized centers which may be a bit challenging. Individuals enjoy the gold in the form of jewelry as they buy gold not only for the investment purpose but for ornamental value as well. Gold is a very liquid asset and can be sold easily in any form in nearby markets by the household if they want to liquidate it. In GMS there are restrictions for the minimum investment horizon. Investors who buy gold to gift ornaments at marriages or other occasions may find this scheme not very attractive.

Cost of purity verification, melting charges and stone removal charges would be borne by the investors. These costs may account around 2% of the total gold value or may be more than the interest earned in a year on the gold deposits. As customers have been provided the option to redeem either in cash or gold, this may increase the risk of the banks. However, banks are free to hedge their positions against the short term deposits.

In short, GMS is launched with the objective to mobilize the idle gold for the productive use. Investors can get interest on the idle gold, where banks can use it for the CRR/SLR requirement and to provide gold loans to the jewelers, or can sell in the open market that ultimately help in reducing the gold imports and to maintain trade deficit. Any individual, firm, trusts, mutual funds can invest in this scheme. Minimum 30 grams of quantity of gold can be deposited in this scheme for short, medium and long term. Interest earned and any capital gain would be exempted from income tax. Premature redemption is allowed after a lock in period with some penalty on interest payments. At the time of the redemption investors will have the option to receive the payment either in cash or in gold.

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GUEST COLUMN

India's Current NPA Mountain: Result of Absence of Institutional Learning

Deep N Mukherjee

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India has been There Before

Last time it took 9 Years: In 1997, India's banking system's Non-Performing Loans to Total Gross Loans (NPLTGL) was 15.7 %(Source: World Bank). It took 9 years for the NPLTGL ratio (domestically referred as NPA ratio) to fall below 5 %(3.2% in 2006). Between 1997 and 2002, the growth rate of Nominal GDP was 4.4%, real interest rate averaged at 7.7% and the NGLPTL reached 8.8% by 2002. Between 2002 and 2006 the nominal GDP of India grew at a rate of 16%, while during the period the real interest rate averaged 5.7%.

Here it must be highlighted that since the loan and NPL are nominal (not adjusted for inflation) the nominal GDP trajectory is more important than the real GDP.

Nominal GDP and Real Interest Rate: If an economy enters into a deflation mode (i.e.; systemic inflation becomes negative) then nominal GDP growth becomes lower than real GDP growth. Economy observers focussing only on real GDP, in such situations, may draw a dangerously incorrect conclusion that the economy is recovering and the economy's bad debt problem would get resolved. But in practise the opposite happens.

Corporate Earnings (which are of course nominal) tends to come down and more companies find it difficult to service their debt. Thus the NPL (or Non-Performing Assets (NPA) as is often referred in

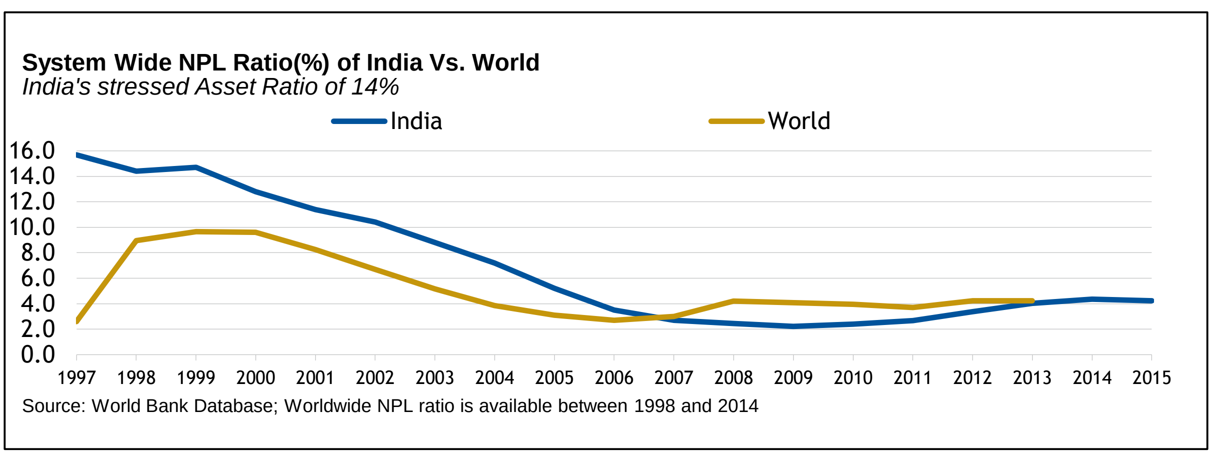
India) actually worsens. While, the attractiveness of prevailing interest rate to business is driven by the real interest rate ie; lending rates adjusted for systemic inflation -The measure often used is GDP Deflator. To illustrate, at the cost of over simplification, if the nominal (prevailing) lending rates are 11% and the inflation is 10%, businesses would expect their revenues and earnings to grow at a brisk pace without presenting much challenge to service debt at an interest rate of 11%. However, if prevailing lending rates are 9% and the systemic inflation is 2%, most businesses would expect their revenue and earnings to grow at low single digit growth rates. They might not find the 9% rate of interest very enticing. However, in popular discourse some experts often focus on exactly the opposite. The focus on real GDP and nominal interest rate!

Almost back to 1997: The formally recognised NPA rate as of 30th September, 2015 was slightly above 5%. However, Mr. S.S.Mundra , Deputy Governor of RBI stated, at a banking summit organised by Confederation of Indian Industries(CII), that as of 30 September,2015 the amount of Gross NPA plus restructured loans plus written off loans stood at 14% of the Indian banking assets. And this may go up further by 31st March,2017 which is the deadline that RBI has set for Indian banks to 'clean-up' their books.

With nominal GDP growth hovering at sub 10% level(FYE16:8.6%) and real interest rate at around 7%, one may be forgiven for wondering if it would take a good six to nine years for the current the NPA rates to come down if the previous century's experience is repeated. But one can always hope that things may not be that bad as they say 'this time it will be different'.

The 'NPA Cycle'

An Economic Event: In general bankruptcy/defaults are economic events. It is generally observed in most countries that system wide NPA rates rises when the economic growth moderates and NPA rates starts to fall when the economy revives. The worldwide NPLTGL ratio in recent decades peaked



around 2000(9.65%) and 2001(9.6%). Global economic activity revived post 2002. The global nominal GDP growth rate between 2002 and 2008 was 10.6%. The NPLTGL rate improved and reached its lowest level in 2007(2.7%). Of course it started creeping up and started hovering around 4%, where it remained till the most recent year of available data (2014) in the World Bank Database.

Here the point to be highlighted is that despite the Global Financial Crisis (GFC) in 2008, arguably one of the worst economic shocks post World War II, the global NPLTGL has not jumped back to 8%-9% level.

Of course one may argue that the problem of timely identification of default is not limited to India and the NPLTGL at a global level may be higher than the 4.23% reported in 2014. Still this is not even half of the peak NPLTGL levels seen in 2000. Given bulk of the banking assets are in North America and Eurozone, where default identification mechanism is relatively more robust than in emerging markets such as India, even after possible future adjustment the global NPLTGL number is unlikely to come close to 9%. Though it can be higher than 4.23%. However, in India the stressed asset rate is already 14% of banking sector assets and in all probability can move higher.

Questions Maturity of India's Risk Management Practises: The retracement of systemic stressed assets levels at present to levels comparable to 1997-98 may suggest that the current NPA issues in India are not entirely due to pure economic cycles. Extra-economic factors had a huge role to play. The other doubt that may be raised is whether the Indian banking system had learned and remembered the lessons of the past. Has the improvement in the level of sophistication of Indian banking's credit risk management systems, kept pace with the growing complexity of Indian economy and Indian corporates?

Previously, the NPA rate fell because economic growth shot up between 2002 and 2006. Likewise the fall in real interest rate also provided the necessary support to credit lead investment growth. Thus the fall in NPA rate till 2006 had a lot to do with the rise in the denominator (total banking system assets) and to a lesser extent on reduction in numerator (absolute level of Gross NPA). Under such circumstances it is possible that the learnings of risk management in Indian banking system has not been as widespread as one would have preferred.

However, the world economy is replete with examples of countries who faced high levels of stressed assets in 1990 and early 2000, but have learned their lessons well. Thus we see for a lot of these countries, the NPA rate (or NPLTGL for that country) has not shot up significantly post 2008.

Systemic Bad Debt Problem not uncommon: During the period 1997 to 2001 several countries had bad assets which were well over one-fifth of their total banking sector assets. Notable among them are Indonesia (1998:48.6%), Thailand (1998:42.9%), China (2001:29.8%), and Turkey (2001:29.3%). However, each of these country's banking sector had taken the lessons to heart. So in the aftermath of GFC the impact on the banking sector's stressed asset rate had been in check. While in India the stressed asset rate has kept on increasing since 2011 and is closing in to 1997 levels without showing any signs of a reversal at least over the next few quarters.

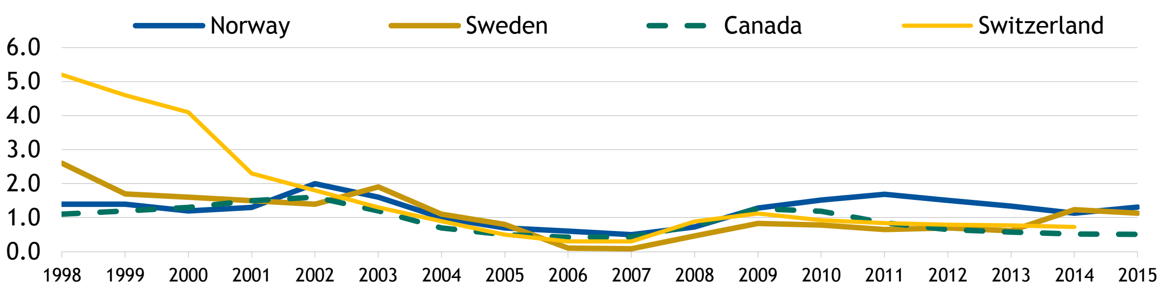
I have focussed on 34 prominent economies and studied the behaviour of their respective banking sector's NPL/NPA rate. These 34 countries were divided into five categories:

a) Most Steady Hands in Business b)Steady Hands with Minor Hiccups c) Learners d)Slow Learners e) New Students

Most Steady Hands in Business: Even among developed countries one may easily benchmark countries such as Norway, Sweden, Switzerland and Canada against others. These four countries have kept their systemic NPL rate in check over last two decades. To their credit, even post 2008 GFC, the incremental deterioration in their stressed asset ratio was unexceptional. While Norway, Sweden and Canada had consistently low systemic NPL rates, Switzerland has been a sharp learner as may be indicated by only a small spike in NPA rate in 2009 which of course was checked by 2011.

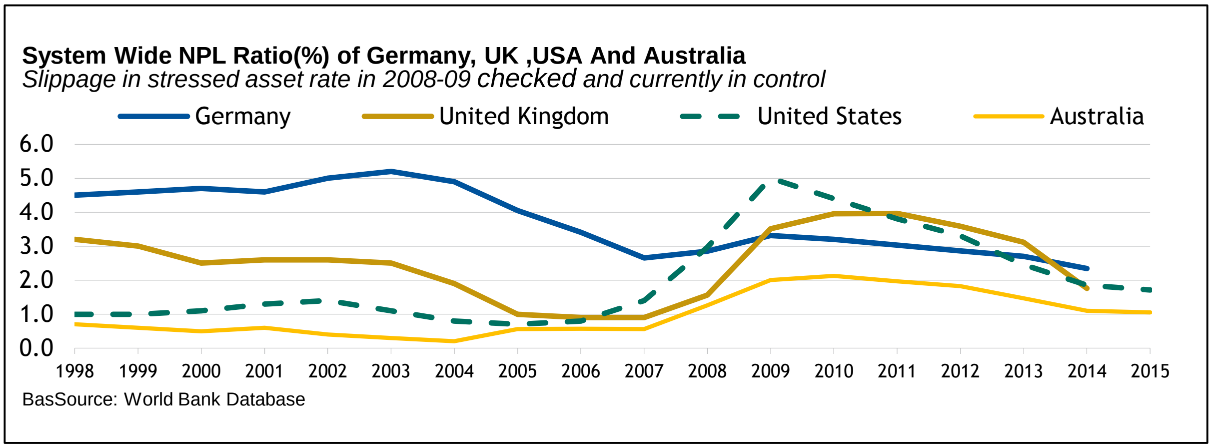
As per World Bank report during the period (2004 to 2014) the average days required for contract enforcement improved from 508 days to 314 days for Sweden and for Switzerland it improved from 417 to 390 days. With the exception of Switzerland (~45%) the other three countries had recovery rate in excess of 75%.

System Wide NPL Ratio(%) of Norway, Sweden , Canada and Switzerland
Banking System Handled Economic Cycles Well



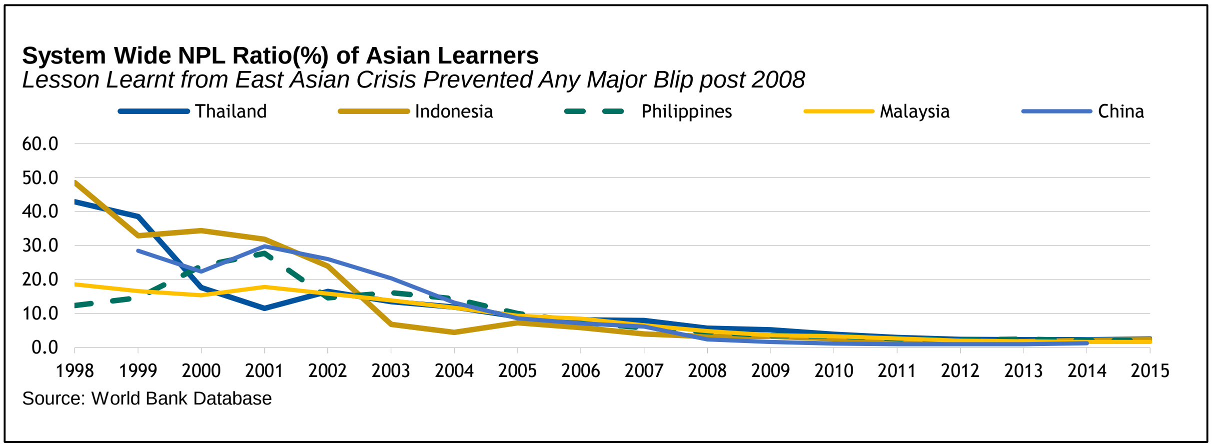
Source: World Bank Database

Given the maturity of their banking and systems, this controlled NPL rate across economic cycle as well as in response to economic shocks may not have been surprising.

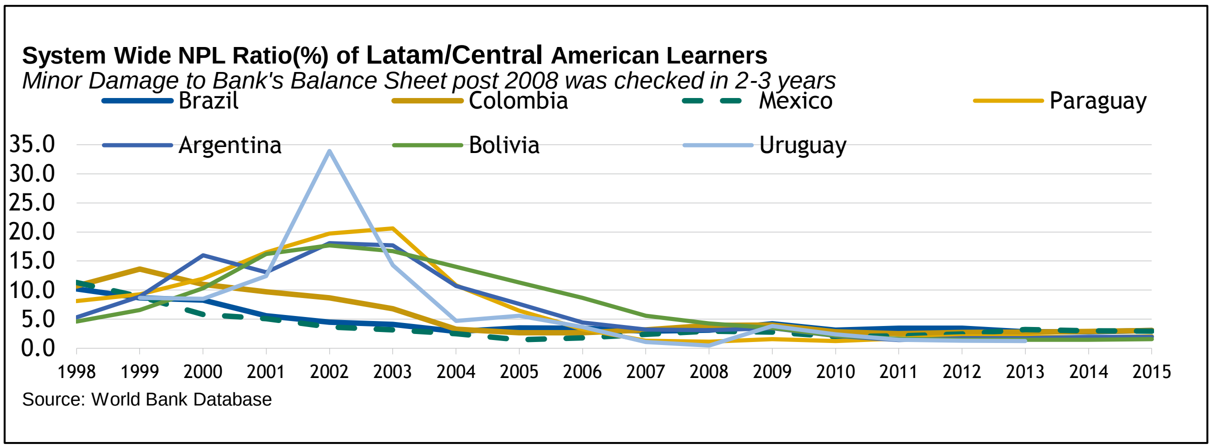


Steady Hands with Minor Hiccups: Next would be countries such as Germany, UK, USA and Australia. Over two decades their systemic NPA rates has been in control, however there was significant slippage in 2008-09. USA which was in the epicentre of GFC as well as UK which had a high exposure to US economy showed the highest relative deterioration in stressed asset rate. However over the next six years despite very moderate economic growth the systemic NPL rate came down close to historical average. Of course apart from structurally advanced credit infrastructure the near –zero interest rate and quantitative easing also played their part to boost corporate earnings and reduce NPL rate

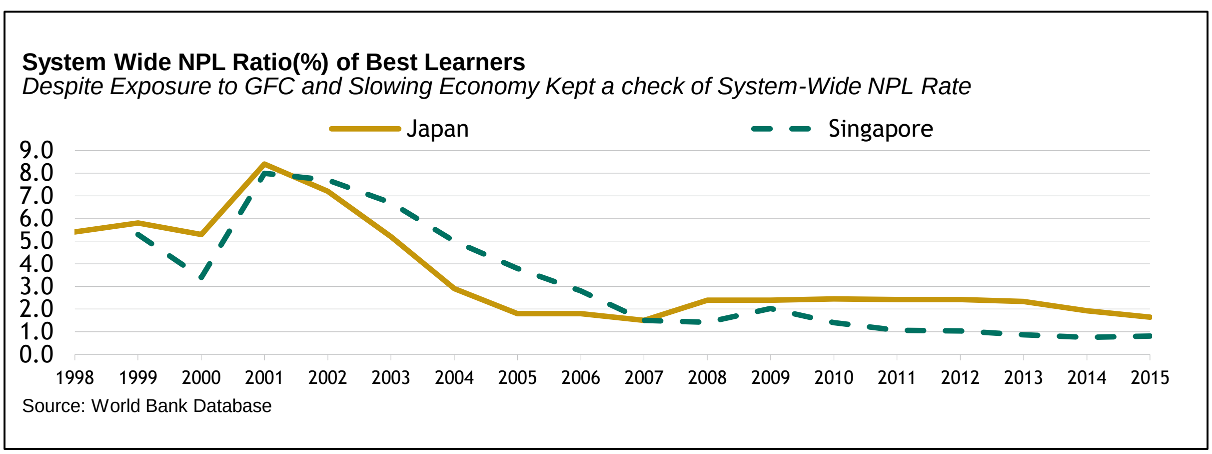
Learners: The previous two groups consisted essentially of developed nations with well-established institutions and highly evolved and efficient legal infrastructure. However, the learners essentially consist of emerging nations who have learned their lessons and were able to check the system-wide NPL rate post 2008. However, one should be cautious before singing praises for all these emerging market learners for two reasons. *First*, at least some of them have issues in prompt identification of distressed asset on similar lines as India. *Second*, a lot of them are heavily dependent on commodity prices or exports and the last word is yet to be said on their NPL rates. Still one thing that may be noted is that even if their NPL rate goes up post 2015, they are unlikely to come even close to the levels observed in late 1990s or early 2000.



One should of course separately mention Singapore and Japan. Post 2008 both these countries had very low to negative GDP growth but still there was no spike in their NPL rates.

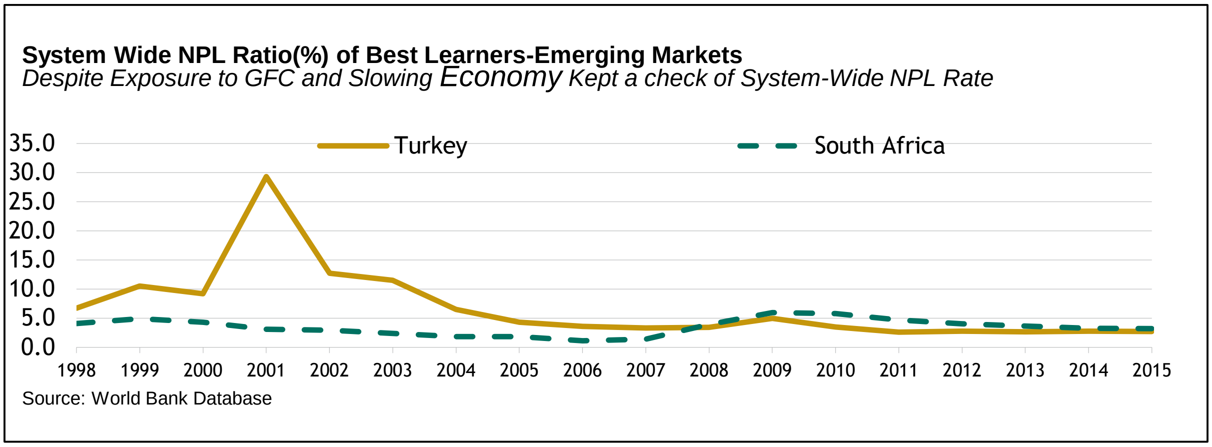


Among Emerging markets the best learners are South Africa and Turkey. The blip they showed in their respective systemic NPL rate in 2009 were very insignificant and they were corrected in the

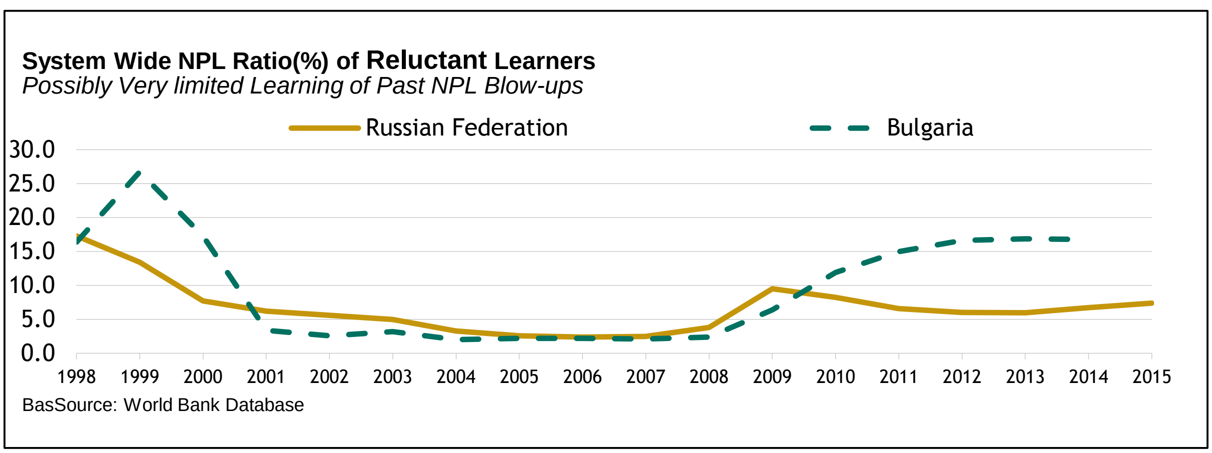


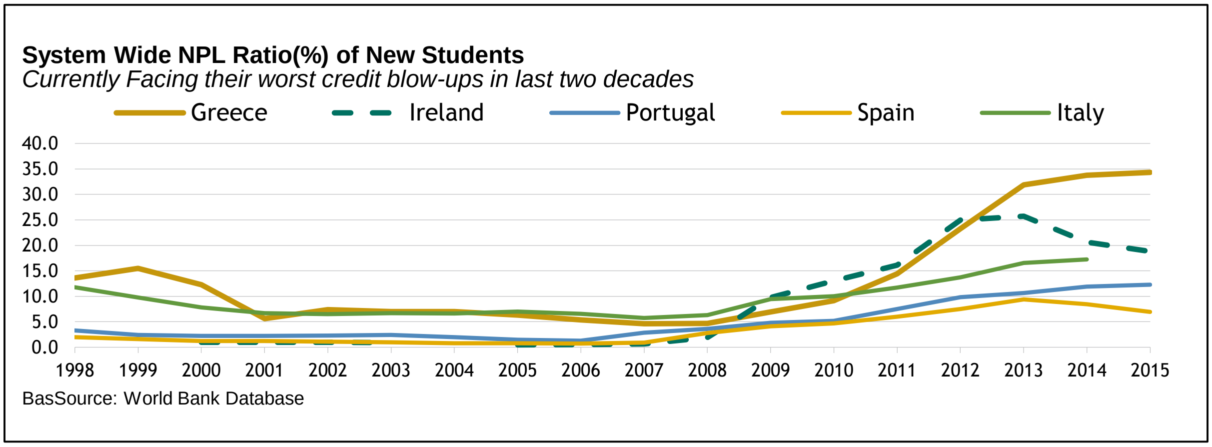
next 1-2 years. Of Course South Africa is facing a tremendous challenge on its economic front and it will be worthwhile to observe how high the NPL rate goes.

Slow/Reluctant Learners: India may have well been part of this group along with Russia and Bulgaria, where NPL rates came down during period of economic boom and shows signs of shooting back to historically high NPL rate levels.



New Students: These are mostly Eurozone countries. These are currently having systemic NPL rates way above what they have experienced in the last two decades. Some of them such as Spain have a history of coming out of such crisis. While the problem has been a direct outcome of low economic activity which was a result of fiscal austerity in most instances, still the steps these countries may be taking may have important pointers for India.





The Indian Situation

In India the present system is banking on the enactment of the bankruptcy code into law to help the current NPA situation. However, as the latest Companies Act related uncertainties suggests, passage of the bill in the Parliament is only the first step. Equally critical is the notifications of the law which would come up from the ministry. This can take anywhere between six to 24 months if not more. And assuming that the notifications which are the implementation details of the enacted law are reasonably unambiguous, the doubts continue as to how the country's overburdened legal system would handle this extra burden. In all likelihood India's current NPA crisis is yet to reach its peak and even if the bankruptcy code is enacted it will not provide any immediate help.

Besides one question that repeatedly gets pushed below the carpet is whether the banking system as a whole have sufficient knowledge and sophistication in the credit risk management sphere? Are they able to handle the complexity of the large Indian conglomerate? Do they have the requisite skills and bandwidth to look through the accounting numbers of Indian balance sheet, with some of them having possible forensic issues? It will be a surprise if the answer is yes.

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