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Banks, Policy and Risks

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Abstract

This paper assesses the sources of risk for Indian banks in the context of their history, structure, level of development, and policy environment and draws out implications for global and domestic policy. It contrasts scale and cross-border exposures for banks in emerging and advanced economies. The paper finds that the path of market development and regulatory evolution has helped reduce structural risks. Some aspects of the broad-pattern regulation, that have good incentives, would fill gaps in global regulatory reforms. Cyclical risks are rising but they are neither systemic nor of a very large magnitude and can be contained as long as policy makers moderate large fluctuations in asset prices. This is required since markets remain thin. International institutions should design instruments to mitigate contagion risks.

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Executive Summary

This paper assesses the sources of risk for Indian banks in the context of their history, structure, level of development, and policy environment, and draws out implications for global and domestic policy.

Emerging market (EM) banks have much lower scale and cross-border exposure compared to those in and of advanced countries. Rather than contributing to risk, EMs are at the receiving end of volatile capital flows arising from high leverage, short-term funding, and risky endogenous expansion of international bank and shadow bank balance sheets.

A path of gradual market development and regulatory evolution, as part of liberalising reforms, has helped reduce structural risks in Indian banks. This was part of a new philosophy of regulation – a shift from micro-intervention to macro-management based on broad patterns, not on individual transactions. Although compliance with Basel norms was very much a regulatory aim, the diversity of skill sets in Indian banks, paucity of data and of market-determined parameters partly forced regulations such as pro-cyclical provisioning norms instead of relying wholly on internal risk assessment-based capital adequacy.

This broad-pattern Indian regulation turned out to have good incentives that reduced the pro-cyclicality financial markets are prone too. Similar features could also fill gaps in global regulatory reforms. These gaps include too much regulatory discretion and therefore, delays in response to systemic risk, exemptions for shadow banks and potentially risky activities, and excessive reliance on capital buffers that are difficult to build and could reduce lending. Regulation based on broad ratios reduces risk for banks without the disincentives for activity that full or no liability involves. Since such regulation can be transaction-based, it can also cover shadow banks. As risk is reduced, a trade off reducing loss-absorbing buffers in return may be feasible.

The highly bank-based regulatory stance of the BCBS is a general problem for EMs since their financial systems are bank-dominated, already have strong regulation and taxes but are yet to reach scale. The impact of additional requirements under Basel III may be onerous, especially since the shadow banking system that plays a large part in

volatile flows to the region escapes regulation. Ideally, the regulatory package should be redesigned and lightened for banks, yet be spread more widely to also cover shadow banks.

EM banks have to continue to modernise, and further develop markets, but an ideal regulatory system should adopt some current EM practices. Awareness has to be created about these issues since markets tend to punish any deviation from advanced country norms without understanding contextual differences.

Cyclical risks are rising but they are not of a very large magnitude, are not systemic, and can be contained as long as macroeconomic policy moderates large fluctuations in asset prices. This is especially so because of thin markets, higher levels and spreads of interest rates and more variation, higher pass-through because of a less competitive banking sector, a higher impact of interest rates due to more loan-based lending and an unbalanced impact on the modern part of the economy. Large fluctuations in exchange rates, due to capital flows driven by external shocks, also create risk.

International institutions should design instruments to mitigate contagion risks. This would be an economical use of global resources compared to spending large amounts in a full-blown crisis.

The steady market and institutional development that has allowed interest and exchange rates to be market-determined, reduced their volatility, improved monetary transmission and imposed some discipline on governments must be continued.

Contents

List of Tables

List of Figures

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Banks, Policy and Risks

Ashima Goyal*

1. Introduction

International institutions, analysts and rating agencies tend to regard emerging markets (EM) banks as high risk. Advanced country banks are thought to be robust and well regulated. But the global financial crisis (GFC) and the continuing European sovereign debt crisis demonstrated just the opposite. After the East Asian crises, EMs have strengthened, with better macro stabilisation and other reforms. However, the IMF (2011) has again warned about dangers to EM banks. In October 2011, Moody downgraded the Indian SBI from C- to D+, and in November, revised its outlook on India's banking sector from stable to negative, although S&P gave a stable assessment.[1] This is part of a general assessment of higher risks for banks around the globe.

The GFC should have led to some recalibration of the scales for measuring risk but it has not. Many EM banks are slowly emerging from a period of financial repression and government ownership, which creates risks. So do the narrow financial markets and higher inflation regimes in which they typically operate. However, there are also some positives such as better oversight and incentive-based regulation. Exposure to cross-border risks and doubtful sovereign debt are limited. High leverage, short-term funding, and risky endogenous expansion of balance sheets, which preceded the GFC, are absent. These are some of the features that kept Indian banks safe during the GFC and that will limit contagion from the protracted Euro debt crisis. Yet growth, even at seven per cent, implies banking assets will expand at more than double the growth rate, creating many profit opportunities.

The comparison suggests that a more careful assessment of risks is required. This is attempted in the paper, starting with the basic tradeoffs in the allocation of risks. Structural risks are found to have fallen for Indian banks but cyclical risks are rising. The paper outlines the implications of the risk-assessment for macroeconomic policy and for the structure of international regulation. A loan-based banking system suffers if there are sharp changes in interest rates. Large fluctuations in exchange rates, due to capital flows driven by external shocks, also create risk. Policy needs to smooth such fluctuations and international institutions need to design instruments to mitigate these risks.

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[1] S&P remarked the credit position of some of India's better banks was better than that of the government. However, a bank cannot get a rating above that of the sovereign rating.

Banks have to continue to modernise but an ideal regulatory system would include regulation based on broad ratios. This reduces risk for banks without the disincentives for activity that full or no liability involves. Including these features of Indian regulation could make it possible to reduce the large capital buffers proposed in Basel III. The international regulatory package could be lightened for banks and yet be spread more widely to also cover shadow banks.

The structure of this paper is as follows. Section 2 presents a relative picture of banks in advanced and emerging markets. Section 3 gives a brief idea of the ongoing structural transformation in Indian banking following reforms. The conceptual Section 4 examines the types of risk that are most relevant for banks before evaluating the impact on these of proposed international reforms. Section 5 assesses some special sources of risk before making an overall risk assessment for Indian banks and Section 6 concludes.

2. A relative picture: advanced and emerging markets

Advanced and EM banks differ in both quantity and quality. In 2010, UK had 318 banks of which 241 were foreign banks with branches or subsidiaries in UK, compared to 81 banks (of which 32 were foreign) in India. The aggregate UK bank balance sheet exceeded £6 trillion, or more than four times the annual UK output. Total Indian bank assets constituted only 92 per cent of Indian GDP.[2] Even after shrinking following the GFC, leverage in advanced country banks remains at 25:1 compared to 10:1 for Indian banks.

During the GFC, cross-border borrowing was a major source of risk as money markets froze. As the European debt crisis plays out, cross-border exposures are a continuing source of risks for banks.

2.1 Scale and cross-border exposures

Table 1, Figure 1 and 2 show the countries whose banks (Table 1), and the countries in which banks (Figure 1) had the largest international positions in 2010. The totals given in the charts show the positions of banks in developed countries were nearly nine times larger than in EMs. These countries – US, UK, Euro Area, France and Germany – also had the greatest impact on the financial crisis and bore the major brunt of it. The same countries dominate international debt, money markets, and domestic debt, and therefore, are most at risk from the sovereign debt crisis. Most MNC banks originate

[2] Source press reports and http://www.rbi.org.in/scripts/AnnualReportPublications.aspx?Id=999.

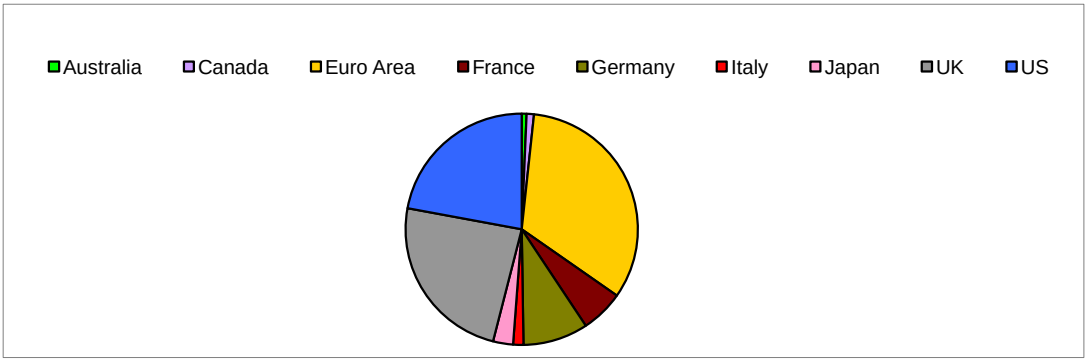
from these countries. In comparison, emerging market positions, and even those of Australia and Canada, are tiny.[3]

Table 1: International positions by nationality of ownership of reporting banks Amounts outstanding (US$ b) (End-September 2010)

Parent country of bank	Assets	Liabilities
Developed Countries		
Australia	421	751.3
Canada	885	749.3
Euro Area	NA	NA
France	4,443.80	4,233.70
Germany	4,552.80	3,598.40
Italy	1,025.70	1,046.70
Japan	3,637.70	2,039.80
UK	4,570.20	4,492.00
US	4,043.20	4,570.30
Emerging Markets		
Argentina	NA	NA
Brazil	202.3	223.8
Chinese Taipei	258.5	275.9
India	142.1	168.5
Indonesia	NA	NA
Mexico	44.8	45
Russia	NA	NA
Saudi Arabia	NA	NA
South Africa	78.6	78.3
South Korea	222.2	225.1
Turkey	163.4	196.5

Source: Calculated from table 8A http://www.bis.org/publ/qtrpdf/r_qa1103.pdf#page=7

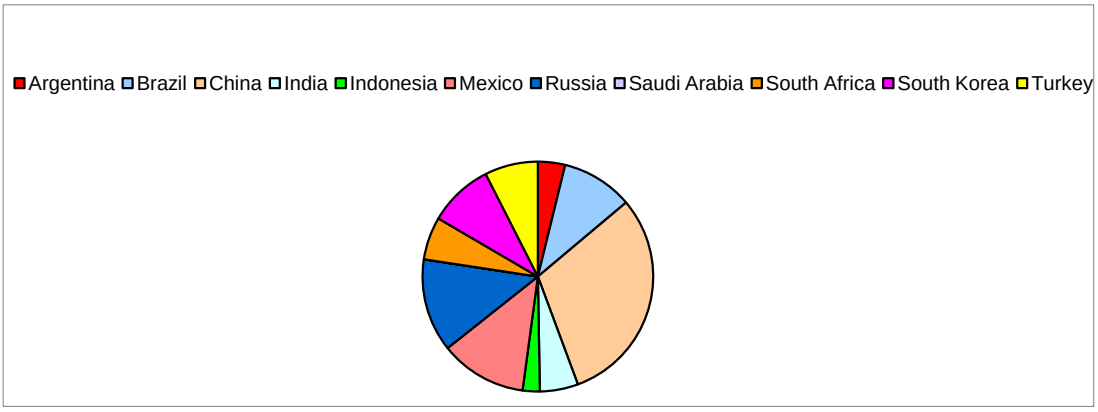
Figure 1: External positions of reporting banks in developed countries: Liabilities (Total-19307.35 US$ b)



Source: Calculated from http://www.bis.org/publ/qtrpdf/r_qa1103.pdf#page=7

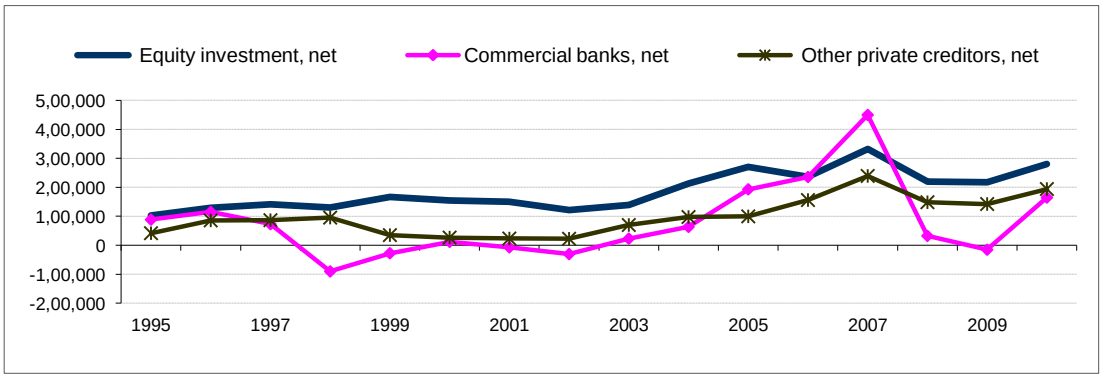
[3] This section and the discussion on international regulatory reform in Section 5 draws on an unpublished project report (Goyal, 2011d).

Figure 2: External positions of reporting banks in emerging markets- Liabilities (Total- 2151.18 US$ b)



Source: Calculated from http://www.bis.org/publ/qtrpdf/r_qa1103.pdf#page=7

Figure 3: Volatile Constituents of Capital Flows



Source: Institute of International Finance, http://www.iif.com/

The US dollar as the reserve currency is the funding currency for global banks. Shin (2011) reports around 160 foreign banks raise about $1 trillion of wholesale dollar funding in US capital markets to send $600 billion to head office. These interoffice assets of foreign bank branches in the US increased steeply since the nineties. They did fall sharply in 2008, but rose again the next year. Cross-currency maturity mismatches compound problems created by dependence on short-term funding. For example, European banks typically hold long-dated, less liquid, US dollar-denominated assets funded by short-dated US dollar borrowings and FX swaps.

In a decentralised funding model, intra-group funding has a low share and the role of the central treasury in allocating and distributing funds is limited. Local assets are largely funded locally. But multinational banks either borrow cross-border in various financial centres (Swiss and US banks) or source extensive local funding abroad (Canadian and Spanish banks have expanded in Latin America and in the United Kingdom) (BIS 2010b).

Since deposit-taking banks are no longer the only financial intermediaries, their deposit liabilities (which are equivalent to broad money) underestimate the aggregate size of leveraged balance sheets. Even for banks mainly funded by deposits, banks' liabilities to foreign creditors are not counted as money, but they expand balance sheets (Shin and Shin, 2010). Deposits are now not the most volatile component of aggregate financial liabilities. In the US itself, securitisation and capital markets dominate traditional banking. In other economies, even if banking is mostly traditional, US liquidity creation affects balance sheets through portfolio flows, foreign liabilities of the banking sector and other types of dollar carry trade.

While EMs may not contribute to these risks, they are often at the receiving end. Banks are the largest source of volatile capital flows to emerging markets (Figure 3). Shin and Shin (2010) document the working of the dollar carry trade in Korea. Foreign bank branches borrowed dollars from headquarters using their inter-office account or unsecured borrowing in the interbank market. These were sold to buy the Korean Won on the spot market and simultaneously buy dollars in the forward market, thus creating an FX swap. In the period before the swap matured, the foreign banks held Korean fixed income instruments denominated in Won, thus lending at the higher Korean interest rate.

Local banks held long-term dollar assets that were claims on Korean firms, arising from the hedging of long-term dollar receivables by shipbuilders. The banking sector then had to borrow short in dollars for maturity transformation. Thus, although there was no currency mismatch, there was still a maturity mismatch, since assets were not usable to meet maturing dollar liabilities. As a result, there were sharp depreciations of the Won in 2008 and 2010.

It follows that non-core liabilities, reflecting interconnections among banks, and FX borrowing of banks are special sources of cross-border risks. Figure 4 shows that the differences in cross-border exposures are reflected internally also in the much higher off-balance sheet items for foreign and private banks in India compared to public sector banks. But this is part of the story of change in the Indian banking sector.

3. The Indian experience

3.1 Reforms

In 1967, a policy of social control over banks aimed to change commercial banks' management and distribution of credit. After successive waves of nationalisation, the public sector's share of deposits was 92 per cent in 1980.[4] The share of directed lending to priority sectors stood at 40 per cent. The statutory liquidity ratio (SLR) and the cash reserve ratio (CRR) were at 15 per cent and 38.5 per cent respectively in 1991, compared to 2 and 25 per cent in 1960. The average return on assets was only about 0.15 per cent and capital and reserves a paltry 1.5 per cent of assets. Inefficiencies created by these severe restrictions on the use and the price of funds prompted liberalisation, as part of the opening out of the economy. The shift from controls to markets sought to reverse financial repression. But the change was gradual. Therefore, banks' dependence on short-term or overnight wholesale funding is limited. Most of the banks follow a retail business model. Loans dominate market investments in balance sheets, reducing market risk.

The second half of the 1980s saw the introduction of treasury bills, the creation of money markets, and a partial deregulation of interest rates hitherto used as a tool for cross-subsidisation. Further reforms included a reduction in statutory pre-emptions and entry deregulation for both private domestic and foreign banks, improved prudential norms and the development of inter-bank and other markets. Legal changes such as the SARFAESI Act made it easier for banks to recover loans. Another proposed reform was to reduce priority sector advances from 40 per cent to 10 per cent. Although this was not implemented, expanding the definition of priority sectors to include sunrise sectors such as information technology has reduced the effective burden of priority sector advances. The CRR reached a low of 4.5 per cent in June 2003 and the SLR touched its statutory minimum of 25 per cent in October 1997. The long-term aim remains to reduce the CRR to 3 per cent. Outcomes were positive. In 2004, the return on assets improved to 1.01 per cent and CRAR to 12.8 per cent. Gross non-performing assets, as a ratio to gross advances, fell to 2.4 per cent in 2009-10 from 12.8 per cent in 1991.

In October 1994, banks were asked to announce a bank prime lending rate (BPLR), based on the cost of funds. For advances of up to Rs.2 lakh, interest rates could not exceed the BPLR. For loans exceeding this amount, which accounted for over 90 per cent of total advances, interest rates were freed. Interest rates on all term deposits, accounting for 70 per cent of total deposits, were freed gradually. They were liberalised fully by 1997. Interest rates on savings deposits of over Rs. 1 lakh, were also freed in 2011.

[4] This subsection is based on RBI (2011) and other reports and references collated by Jugnu Ansari as part of his thesis work on Indian banks.

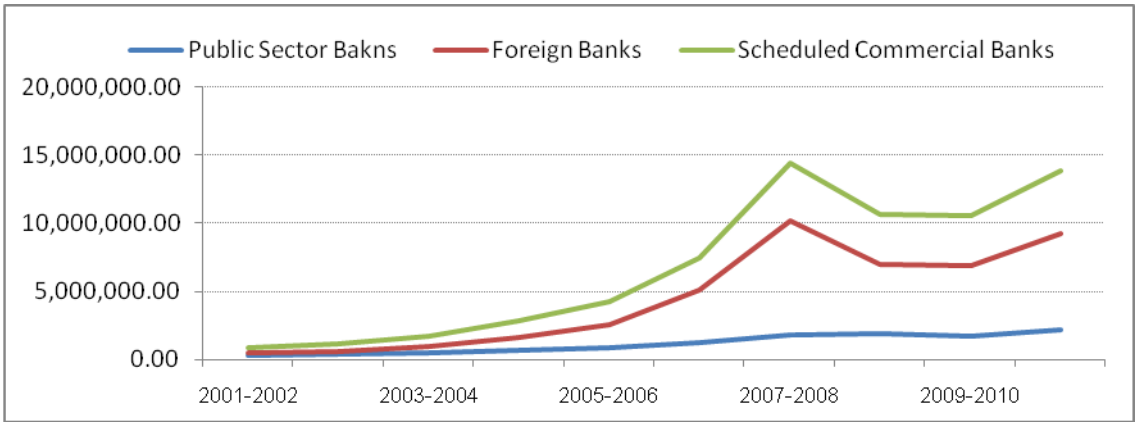
With BPLR, corporates could bargain for sub-BPLR rates while small borrowers were charged higher rates. So from April 1, 2010, the Base Rate (BR) system was adopted. This was a floor rather than a cap rate. Banks could determine their own base rate and actual lending rates based on it. The criteria for determining the BR could include cost of deposits, overheads and negative carry for SLR and CRR. BR was expected to increase credit flow to small borrowers at lower rates. It was also expected to lead to faster and more transparent monetary transmission, since it was forward looking as compared to BPLR, which reflected the past cost of funds. BR was to be linked to deposit rates of one-year tenor since 80 per cent of loans were of one-year tenor. Banks feared corporates would go to commercial paper (CP) etc. for short tenor loans. But the CP market is small in size and lacks depth (outstanding only about Rs.831 billion in April 2010). Only highly rated corporates are expected to source short-term funds from it. Moreover, some competition is healthy.

Freer post-reform entry meant that Indian commercial banks were evenly split in terms of numbers – 27 public sector banks with majority government ownership, 22 private sector banks, and 32 foreign banks. However, public sector banks still dominated in terms of assets. In 2009-10, they held 75 per cent of the assets of the banking system, although this was less than their share in 1991 of a little over 90 per cent. Competition improved since banks could compete through interest rate policy and product differentiation. Deregulation of the savings deposit rate is set to reduce the historical advantage that public sector banks enjoyed in current and savings account (CASA) as hungry private banks raise interest rates to attract deposits.

Technology and skills have improved, but public sector banks still lag behind private banks in systems and use of sophisticated products and derivatives. Figure 4 showed the difference in use of off-balance sheet items. In 2010-11, contingent liabilities as a percentage of the group's total liabilities were 41.4 per cent for public sector banks, 167.9 per cent for private banks and 1892.7 per cent for foreign banks.[5] Given diverse capabilities, banks were allowed learning time for migrating to internal risk rating based capital charges. They have the option to apply for this from April 1, 2012. Value-at-Risk (VaR) based credit risk calculation will take time to become feasible across all types of banks.

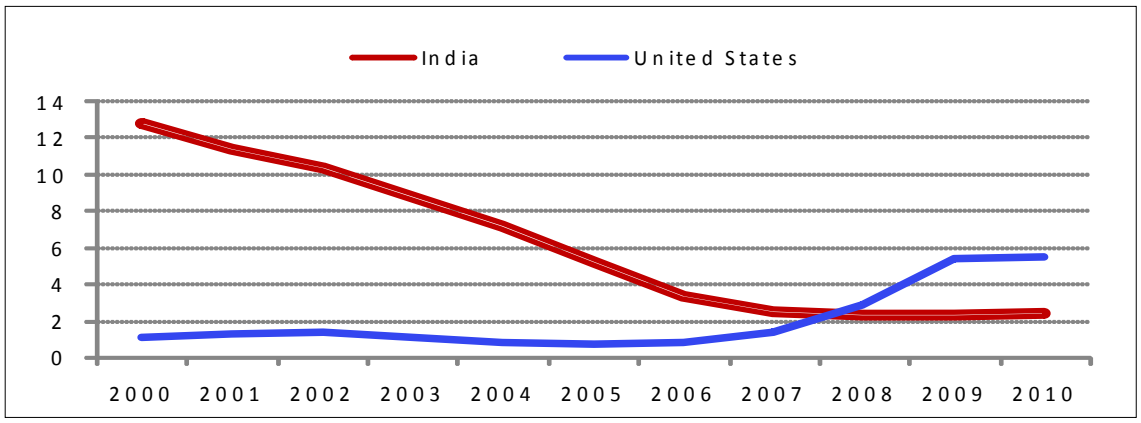
[5] Source: http://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Trend%20and%20Progress%20of%20Banking%20in%20India&fromdate=11/13/2011&todate=11/15/2011

Figure 4: Banks off balance sheet items (Rs. Crores)



Source: Report on trend and progress of banking in India- 2010-11, RBI http://www.rbi.org.in

Figure 5: Bank non-performing loans total gross loans (%)



Source: Calculated from World Bank dataset, http://data.worldbank.org/

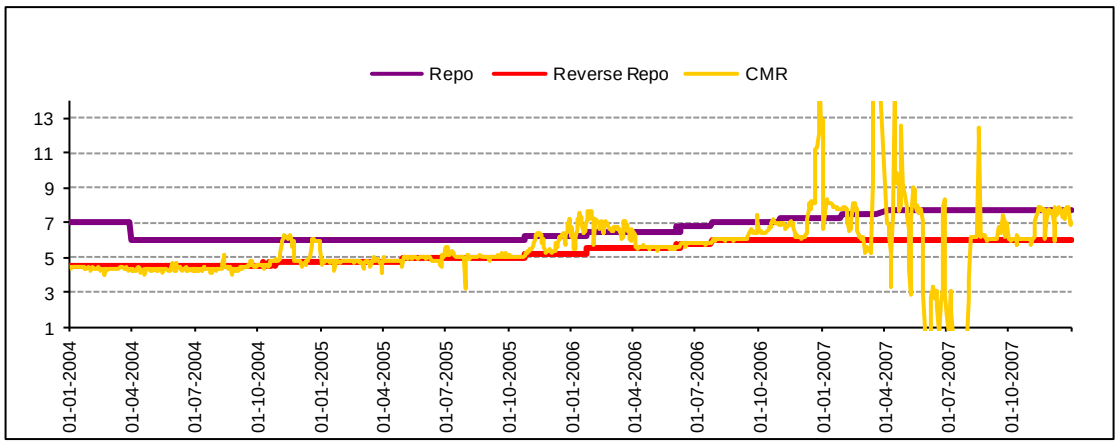
3.2 Banks and markets

In the past decade, development in FX and money markets, in institutions and in instruments of monetary policy was rapid.

Money market: A liquidity adjustment facility (LAF) was introduced in 2002, and fine-tuned progressively. Collateralised injections and absorptions of liquidity largely kept the overnight inter-bank loan rate (the call money rate) in a band between two policy rates, which, by 2011, migrated to a fixed range around a single policy rate, the repo rate. Traded volumes grew in the inter-bank Collateralised Borrowing and Lending Obligation (CBLO) market, but banks short of collateral had to transact at rates that exceeded the LAF bounds when demand for liquidity differed greatly from supply. Figure 6 gives the daily call money rate (CMR). This peaked briefly in 2007, when the

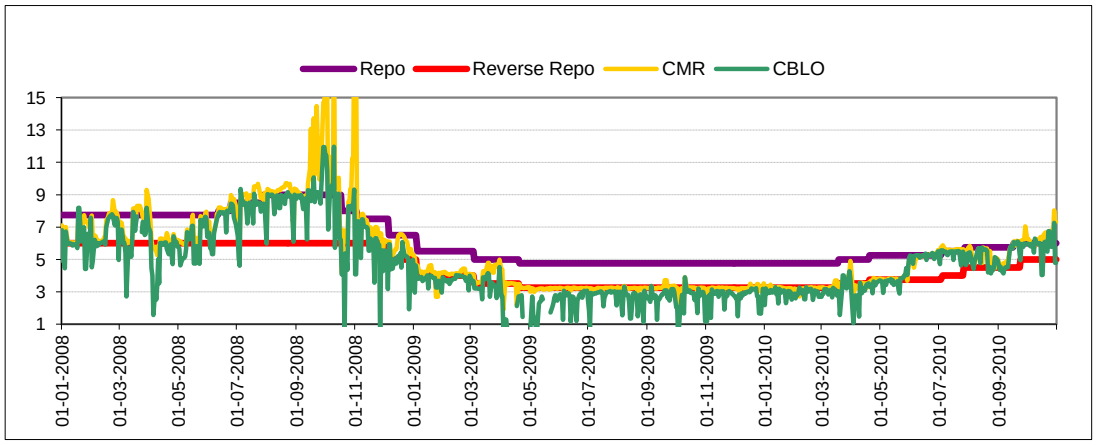
RBI limited borrowing in the LAF to encourage the development of the inter-bank market. The collateralised borrowing and lending market grew rapidly. CBLO rates are also shown in Figure 7. Since lending was based on collateral, market rates could be above the upper band during periods of tight liquidity when collateralisable securities were exhausted as in 2010-11. But for much of the period, rates hugged the lower band as the RBI used the LAF to absorb excess liquidity generated by large foreign inflows. Therefore, the volatility of call money rates, although reduced, was still appreciable since they could jump from one edge of the band to the other.

Figure 6: Daily LAF: 2004-07



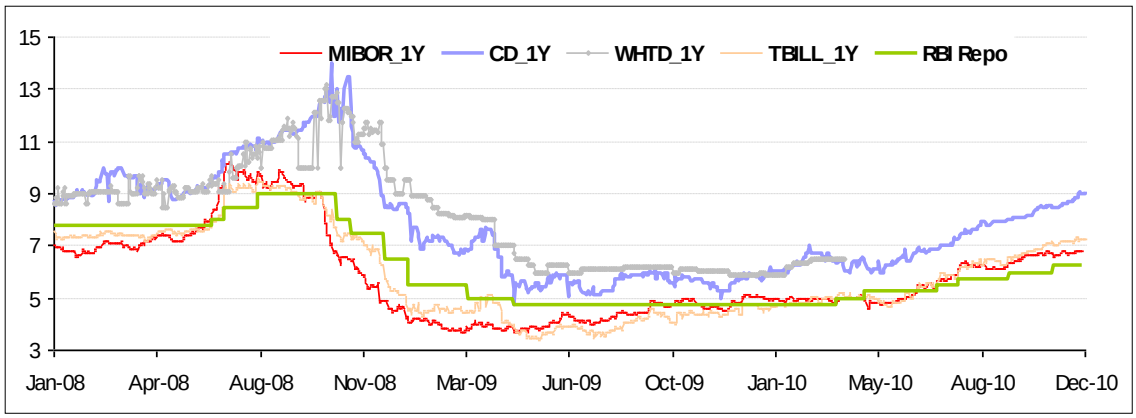
Source: Calculated with data from RBI http://www.rbi.org.in

Figure 7: Daily LAF: 2008-10



Source: Calculated with data from RBI http://www.rbi.org.in

Figure 8: Transmission of RBI Repo Rates



Source: Calculated with data from RBI http://www.rbi.org.in

Figure 8 shows how the short-term policy rates began to influence longer maturity rates through the term structure, demonstrating one leg of active monetary transmission through rates. Policy was working now with both price and quantity variables.

FX market: The average daily turnover in Indian FX markets, which was about US$3.0 billion in 2001, grew to US$34 billion in 2007, the fastest rate of growth among world markets (BIS, 2007). Growth in derivatives especially was strong, increasing to more than double the spot transactions (Goyal 2011b). Even so, in futures markets, most of the trade is intra-day, and open interest that denotes hedging activity is low. Liquidity and robustness to shocks is far from that in the US market. Short-term instruments with maturities of less than one year dominate, and activity is concentrated among a few banks. As elsewhere, FX transactions are mostly over-the-counter structured by banks. The most widely used derivative instruments are the forwards and foreign exchange swaps (rupee-dollar). But because of user demand for liquid and transparent exchange traded hedging products, currency futures were started in 2008 and later extended to multiple currencies. Multilateral netting on market platforms saves transaction cost. Guarantees from the trade date reduce foreign exchange settlement and counterparty risk. But restrictions on use of derivatives by foreign investors have led to the rapid development of offshore, non-deliverable forward markets.

G-secs market: The supply of G-secs is very large in India, and the price is market determined but the market is thin. Banks normally choose to hold an amount in excess of the statutory liquidity requirement (SLR).[6] This suggests they get a good deal. Figure 8 that gives the one-year treasury bill rate shows the high level and large variation in the cost of government borrowing. The still large SLR may be reducing the level and volatility of borrowing costs, but it also gives sops to banks. In 1985, the RBI provided for valuation of held-to-maturity (HTM) securities at cost price in order to facilitate

[6] For example, in 2011, they held 29 per cent against the required SLR of 25 per cent.

movement to market-determined interest rates. This mitigated the erosion in value of SLR G-secs from an expected rise in rates. But the system continues even in 2011 when two-way movement in interest rates was established. There is strong resistance from some banks to a fall in the HTM share of SLR securities. Since the SLR holding is not marked to market (MTM), there is no need to hedge interest rate risks, which prevents an active debt market from developing. It illustrates how a valid practice gets locked in, even when it has become dysfunctional. A system designed for one regime continues in another. The absence of an active G-secs market also makes it difficult for the RBI to conduct open market operations (OMOs) and fine-tune liquidity. Active markets in term instruments have not developed. However, the large HTM share does reduce the pro-cyclicality of the balance sheet created by MTM, and perhaps reduces the cost of government borrowing.

The move to a more market-led system required complementary regulations to reduce risks. The next section briefly discusses the nature of financial risks, and argues that certain features of Indian regulation were successful in reducing risk. These features may also help fill gaps in proposed international regulatory changes.

4. Typology of risks and regulatory responses

Risk can be defined as measurable uncertainty implying some probability of loss. In finance, risk arises since returns can differ from expected values.

4.1 Types of risk

The common types of financial risk affecting banks are the following.

Credit risk is the probability that a borrower defaults on payments. Country risk is included in this. Poor systems in a country raise default and counterparty risk. In particular, if governments force banks to make loans on non-commercial grounds, or government guarantees induce moral hazard from borrowers or lenders, credit is more likely to be at risk. Credit risk also arises during a slowdown or when interest rates rise in a boom that leads to borrowers being stretched.

Market risk includes risks like interest rate, currency, liquidity, systemic, volatility, refinancing, equity and commodity risk. Interest rate and currency risk is high when there are large arbitrary, unhedged movements in these prices. Volatility can be high in thin markets, and hedging is also limited if markets for hedging products are thin or missing. The GFC gave recent demonstrations of liquidity and systemic risk as markets froze, and transactions could not be undertaken.

There are other types of risks too, such as operational, legal, and political. Some of these can be subsumed in country risk.

There is a fundamental trade off between the insurance and the incentive criterion in the allocation of risk. Rewards and therefore, incentives for innovation, rise with risk. Too little risk reduces innovation but too much increases the probability of loss and also reduces innovation. From the incentive criterion, he who can best control risk should bear it. Ex-ante diversification through markets lowers expected value. From the insurance criterion, however, risk aggregators to whom agents can transfer risk perform a valuable function.[7]

However, financial institutions, who are natural risk aggregators, have passed on too much risk to the government, since they retain the upside but pass on the downside through bailouts. On the criterion of who controls risk, incentives for safety improve if a bank has to bear risk. As rewards reduce, incentives to take risk reduce. Laying-off risk to the government or through limited liability structures encourages more risk taking. Own equity or capital at stake is, therefore, a way of decreasing excessive risk. Stronger liability can induce a board of directors to take responsibility for oversight and governance of risks. It follows that all risks due to government actions are best absorbed by it, but others must be left to private agents.

The GFC showed the government pooled too many risks, with the taxpayer forced to subsidise finance. Financial market participants enjoyed the upside but left the downside to the taxpayer. This led to too much financial innovation and risk-taking. But going to the other extreme and relying solely on capital buffers may reduce innovation too much. Therefore, a via media is to supplement equity by more direct regulations. This via media is used effectively in many EMs, as the changes in the regulatory structure of Indian banking outlined in the next section shows but is still missing in international reforms.

4.2 Regulation of Indian banks

The post-reform shift from micro intervention to a strategy of macro management included strengthening prudential (safety) norms and the supervisory framework. The Basel I Accord capital standards were implemented fully by March 1996. Guidelines on income recognition, asset classification, provisioning, and capital adequacy were tightened. Indian banks with foreign business were required to implement the standardised version of Basel II by March 2008 and others by 2009, although capital adequacy already exceeds Basel III in some cases.

A major challenge in implementing risk-based capital charges is to collect accurate and detailed additional data. Lack of historical data for wholesale and retail, together with the absence of industry benchmarks to be used in calculation of internal parameters,

[7] The government can more easily spread risk. Its taxing ability means it is best placed to diversify risk and to borrow at low cost since there is no bankruptcy premium. This is the reason for limited liability and for many types of government warranties.

was feared to distort risk-based pricing. Data for many years would have to be collected and processed, implications of legal changes such as the SARFAESI Act that facilitates credit recovery, etc. would have to be built in.[8]

These lacunae were part of the reason Basel-type prudential norms were supplemented with broad pattern regulation. This turned out to have incentive features that played a role in keeping markets safe. The argument that continued controls limiting market development were the reason the sub-prime crisis bypassed the Indian financial sector is not correct since steady market development took place.

Incentive-based regulation included loan to value and countercyclical provisioning ratios. When Indian real estate prices rose, provisioning for bank housing and commercial real estate loans was raised as a countercyclical measure. A provisioning coverage ratio for banks of 70 per cent of gross non-performing assets augments provisioning buffers in good times. Changing sectoral provisioning requirements, which directly affect the profit and loss account of banks, were found to be more effective than varying risk weights. With the latter, there was scope for arbitrage for example, since average capital adequacy ratios were above the minimum (Sinha, 2011).

Relatively conservative accounting standards without full mark-to-market requirements do not permit recognition of unrealised gains in equity or the profit and loss account, but unrealised losses have to be accounted. Banks are required to periodically mark-to-market their investments, but only those held in trading categories. They have to provide for net losses while ignoring net gains. This reduces pro-cyclical incentives. Under guidelines on securitisation, issued in February 2006, exposures have conservative capital adequacy requirements. Any profits on sale of assets to a special purpose vehicle can be recognised only over the life of the pass through certificates issued, not immediately on sale. These features, while differing from modern fair value accounting standards, again reduce pro-cyclicality (Goyal, 2009). There are ongoing discussions to adjust international accounting norms to take care of some of these issues.

Indian banks do continue to have position and sectoral exposure limits. Certain activities, for example financing domestic acquisitions, are not allowed. In 2011, Indian banks had reached the exposure limit in financing infrastructure. The new philosophy of regulation, together with high growth and legal reform that made debt recovery easier, led to non-performing assets falling to historic lows (Figure 5) even as systemic failures were avoided. There were structural improvements in the health of Indian banks. Indian financial institutions were thought to be behind their global peers in modern risk management practices, but it should be now recognised that a traditional

[8] India has become a member of the Financial Action Task Force (FATF) against global terrorism and money laundering, and is gearing up to improve data on financial transactions. The securities regulator, SEBI, has announced KYC norms will be implemented centrally. Together with the UID project, this will help it harness detailed electronic trails, and other linked information, in an efficient way.

risk assessment methodology helped them avoid many problems. Even while the shift towards modern practices occurs, modern should be redefined to include some aspects of the traditional system (BIS 2010a).

4.3 Lacunae in proposed international regulatory changes

Are Basel III and other proposed post-GFC regulatory changes sufficient to address the risks identified? Unfortunately, proposed reforms are in some ways too strict in allocating all risks to the financial sector, but are too weak in leaving many gaps that enable escape from regulation.

The Basel III and Dodd-Frank focus on banks will drive more financial intermediation to the shadow-banking sector. Many institutions, for example investment banks, carry out banking functions such as issuing debt, but they face minimal oversight since they do not take deposits. More corporate and consumer loans could be securitised and held by highly leveraged investors such as hedge funds and not be subject to bank-oriented capital regulation. Hansen et al. (2011) suggest imposing minimum haircut requirements at the level of asset-backed securities for all investors, not just on banks. Then short-term leverage will be constrained for all investors taking a position in credit assets, mitigating the shadow-banking problem.

The Volcker rule aimed to prohibit banks from taking too much risk. But it exempts certain positions from the ban on proprietary trading by deposit-taking banks. Exemptions include loans, spot foreign exchange or commodities, and also repurchase and reverse repurchase agreements or securities lending transactions required for liquidity management. Banks can invest in hedge funds, private equity funds, treasuries, bonds of government-backed entities, and municipal bonds. Similarly, the UK Independent Commission on Banking (2011) proposes to ring fence retail banking, prohibiting trading book activities. But financial activities required to fulfil treasury functions are exempt.

However, traders, shifting to activities that appear low risk, create risks. This endogenous creation of risk is the reason why the risky assets-based capital buffers of Basel II were unable to prevent the GFC. For example, Euro sovereign debt had zero risk weights. But Basel III continues this approach.

The basic market failure is that individuals do not take into account systemic spillovers from their decisions. Therefore, countercyclical, macro prudential regulations are essential. But these have been left to systemic councils where problems of regulatory discretion and co-ordination will lead to critical delays. Implementation cannot be assured. Simple regulatory measures that can be applied universally are important – else, one jurisdiction is unlikely to implement measures in a competitive situation where it fears it may lose ground by implementing a measure that another jurisdiction

does not implement. Hence, the problem of excess primary liquidity will not be resolved, and neither will its endogenous amplification.

Since the GFC also demonstrated regulatory failure, simple robust reforms that change market incentives and are less vulnerable to regulatory discretion and delays are required. Prudential regulation does align incentives by putting the entity's own capital at risk and providing a buffer to absorb shocks. But loss-absorbing buffers tend to be procyclical – buffers may have to be built up in bad times. Since this is not feasible, delays will be negotiated, as in the current Basel III, where full capital adequacy does not kick in until 2018. In the meantime, fear of spillovers from a crisis, such as the Euro sovereign debt, force bailouts – creating further moral hazard. The systemic effects from financial crises make ex-post discipline difficult to impose. So the deadline for Basel III may be further postponed. Shin (2011) argues the focus should be on preventing risky behaviour rather than on the loss-absorbing or shock-insulating role of buffers.

Therefore, a lesson needs to be learnt from many EMs, including India, where simpler regulations have successfully restricted leverage and have acted counter cyclically. IMF (2011) notes these successes but does not build on them, preferring to merely continue advocating deepening markets for EMs.

Taxes and margin requirements are another potential tool. They are automatically counter-cyclical since the tax base expands in good times, and they can be designed to fall more on highly leveraged activities, thus providing good forward-looking incentives. Their use would reduce regulatory discretion and delays, and reduce the need for buffers that constrain lending. Simple universal taxes would work best. International co-ordination would require such taxes to fall in EMs and rise in the major financial centres where they tend not to exist. Its mobility made finance under taxed, but new technology is changing that. The taxes would not be burdensome since the same technology has substantially reduced transaction costs. Tax breaks that encourage debt must be removed. Since derivatives operate on leverage and speculators take a position on prices, strategic bubbles can occur. Margin requirements and position limits can help mitigate these.

With such broad-pattern regulations, risk-taking can be reduced without forcing too much risk on risk aggregators through large buffers. Financial stability is then compatible with financial innovation.

Financial systems in EMs tend to be bank dominated, and banks and their lending has to expand with development, along with other legal, governance, and market reforms. Therefore, a solely bank-focused reform programme hurts them disproportionately, while the neglect of shadow banking and liquidity creation hurts them again through volatile capital flows. Therefore, better-balanced reform would bring them on board, even as it improves global financial stability.

If there are poor incentives from government ownership, there are also poor incentives from a combination of weak regulation, risky arbitrage, and expected bailouts; non-discretionary regulation with better incentive structures is required.

Arguments that such reform will raise borrowing costs carry weight with debtor countries, but with stable development of the financial sector, risk, volatility and its cost would fall. The arguments from lobbyists are actually about protection or for retaining a competitive edge. Estimates of potential output loss from regulatory tightening from the private sector IIF tend to be much higher than from BIS, BCBS and the IMF (2010). The latter agencies take account of net positive benefits from reduced volatility and crisis probability.

4.4 Indian regulatory evolution and Basel III

Except for a few banks, aggregate capital to risk weighted asset ratio (CRAR), was above the Basel III requirement in 2011. But as a developing country with low credit ratios undergoing structural transformation, India can except to see the ratios rise. New rules should not inhibit a sustainable expansion of banks' balance sheets as credit grows faster than GDP (Subbarao, 2011). Expanding the capital base, as required to finance high growth, may also conflict with public sector ownership of some banks.[9] Strong broad pattern regulation such as caps on credit to some sectors, position limits and limits on exposure to different types of risk, high statutory liquidity ratios to finance government debt, and other types of taxation, contribute to financial stability. There is a case, therefore, for reducing required capital buffers in view of these other types of regulation. Since they could fill gaps in global regulatory regimes, any exemptions or tradeoffs should be part of global regulations, not just for India as a special case. Indian regulators will implement whatever Basel III criteria are agreed to. The RBI points out that holdings of liquid, low-risk, statutory liquidity ratio (SLR) G-secs should not be counted as leverage in calculating the leverage ratio. They should also be regarded as contributing to liquidity. These are government bonds against which the central bank provides liquidity under stressed conditions, since the RBI Act does not allow the central bank (CB) to provide liquidity except against acceptable collateral. But the BCBS regards the SLR as a statutory requirement that cannot be reduced. Asking Indian banks to maintain liquid assets over and above the already high SLR would reduce their competitiveness. Although the BCBS is a 'comply or explain' framework, markets may regard any deviation unfavourably, even though the leverage ratio of Indian banks is low (Sinha, 2011). Therefore, awareness has to be created on these issues.

[9] This, together with some worsening of asset quality because of forced support for credit growth after the Lehman crisis, and the later sharp rise in policy rates that by 2011 forced a slowdown, partly explains Moody's 2011 downgrades. But the slight cyclical negatives do not negate the overall better health of Indian banks.

5. Sources of risk for Indian banks

We examine below how thin markets and monetary policy affect risks facing Indian banks, before pulling together these, international factors, and regulatory issues to make a final assessment.

5.1 Thin markets

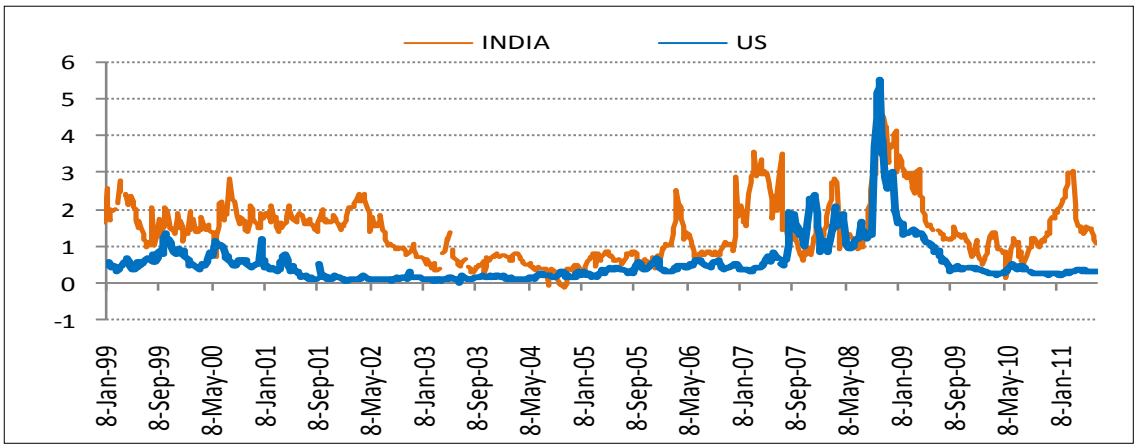
If a market is thin, there is a large impact of a demand or supply shock. An initial evaluation suggests critical markets remain thin. Figure 9 shows the TED spread, the difference between the 3 months US T-bill and the 3 months London Euro-Dollar Deposit Rate, and its Indian equivalent, the difference between the yield from the 91 days T-bill and the 3 months MIBOR[10].

The difference between the interest rates on interbank loans and on risk-free, short-term government debt (T-bills) is an indicator of rising counterparty risk, or of tightening liquidity in the interbank market. The TED spread remains generally within the range of 10 and 50 bps (0.1 per cent and 0.5 per cent in Figure 9), except in times of financial crisis. A rising TED spread often precedes a downturn in the US stock market.

In India, however, these spreads are large even in non-crisis times. That they narrowed during the years of large inflows in the mid-2000s suggests that they are partly due to tight liquidity or the inability to fine tune liquidity in response to shocks that include global shocks. Curdia and Woodford (2009) suggest that, in advanced countries, only a change in spreads has implications for optimal monetary policy. To that extent, a larger, persistent spread in EMs may not have much impact for policy, but the changes in the spread due to liquidity shocks have to be reduced or compensated for through lower rates. Figure 8 shows the spreads between different one-year securities. Tightening can have a larger impact in EMs to the extent large spreads raise the average level of lending rates.

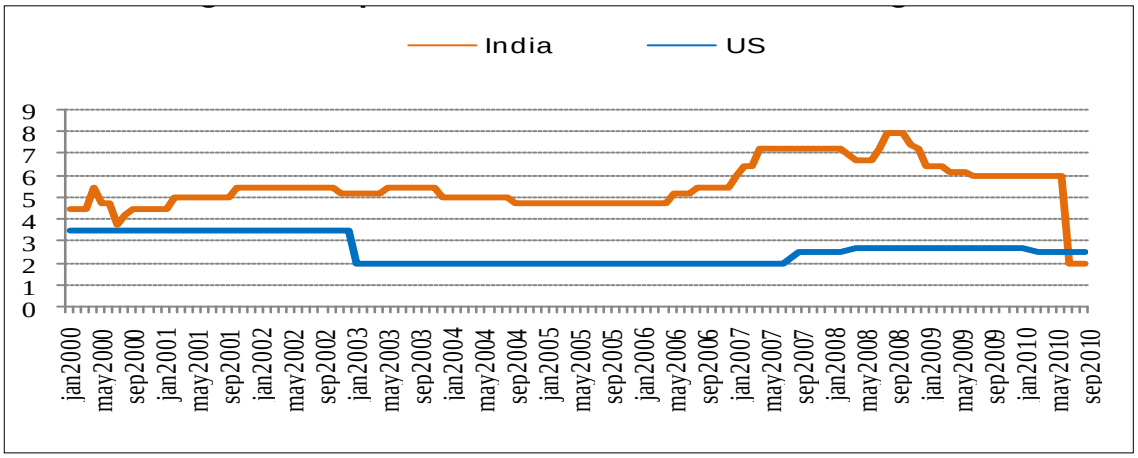
[10] I thank Akash Kumar Baikar for the data and diagrams used in this subsection.

Figure 9: Spreads between 3 month T-bills and inter-bank rates



Source: Calculated with data from IFS (IMF) and RBI http://www.rbi.org.in

Figure 10: Spread between bank rate and lending rate



Source: Calculated with data from IFS (IMF) and RBI http://www.rbi.org.in

Spreads in bank interest rates are also high. Figure 10 shows the difference between bank borrowing and lending rates in the US and in India. For the US, the graph is the difference between the end-of-period Fed discount rate and the bank prime loan rate. For India, it is the difference between the RBI end-of-period bank rate and the BPLR before July 2010, but after that, it uses the base lending rate charged by India's five largest commercial banks. The spread is much higher for India, but falls to below that of the US in 2010, the time of the definitional shift. The latter approximated a shift from one of the highest bank lending rates to the lowest. That a simple reform such as a shift from BPLR to BR reduced India's measured loan spread suggests high spreads may partly be an illusion created by problems of definition and measurement in heterogeneous markets. But different types of borrowers do face very different rates. So the average bank lending rate in India would continue to be much above US rates.

5.2 Monetary policy

Deregulation of interest rates, the institution of the LAF and its maturation by 2004, and the development of money markets proceeded sufficiently for the RBI to shift from targeting monetary aggregates to using short-term interest rates. But large autonomous changes in liquidity due to FX inflows, variations in government cash balances held with the RBI, and continued use of CRR for monetary policy constrained the RBI's ability to forecast and fine-tune liquidity sufficiently to keep the CMR in the middle of the LAF band (Goyal, 2011b). Further fine-tuning of the LAF aims to achieve this (RBI, 2011a). Although liberalisation initially increased the volatility of rates in a thin market, it eventually brought down the volatility to levels prevailing when rates were tightly administered. But now the rates came through a complex market process.

Table 2: Interest rate pass-through

Bank lending rate	For sectors						For bank types		
	Agriculture	**Industry**	**Transport**	**Trade**	**Finance**	**Personal**	**Public sector banks**	**Private sector banks**	**Foreign banks**
Call Rate	0.664 (0.030)**	0.733 (0.022)**	0.713 (0.029)**	0.701 (0.028)**	0.771 (0.028)**	0.565 (0.041)**	0.560 (0.027)**	0.583 (0.033)**	0.583 (0.059)**
Competitiveness index	0.159 (0.012)**	0.146 (0.009)**	0.120 (0.012)**	0.111 (0.012)**	0.131 (0.012)**	0.114 (0.017)**	0.120 (0.011)**	0.142 (0.008)**	0.162 (0.006)**
Size	0.314 (0.070)**	0.237 (0.033)**	0.392 (0.063)**	0.154 (0.052)**	0.281 (0.054)**	-0.194 (0.075)**	0.256 (0.118)**	0.293 (0.066)**	0.266 (0.061)**
Observations	852	1039	894	999	991	1017	392	406	406

Source: Ansari and Goyal (2011)

Note: ** significance at 5%; p-values in brackets

Figure 8 (above) shows the effective transmission of policy rates through different financial markets. Transmission through the banks was also working. Table 2 shows positive coefficients for the pass through of call money rates to bank lending rates, for different sectors and by type of bank ownership. Pass through was also affected by size and the degree of competitiveness. Since pass through falls with competitiveness, it is higher to the extent the Indian banking sector is less competitive (Ansari and Goyal, 2011).

Risk-reducing regulation is a useful complement to thin markets. But so is some moderation of rates. This is especially so because of higher levels and spreads of interest rates and more variation, higher pass through because of a less competitive banking sector, more loan-based lending with a consequent higher interest rate impact, and an unbalanced impact on the modern part of the economy. The aggravation of the East Asian crisis occurred partly because the effects of such sharp interest rate hikes in a non-market based, highly geared system were not understood.

But, similar to the mistakes it made in East Asia, the IMF argued that policy rates in India were much below neutral, that there was severe overheating in 2011, and that rates needed to be sharply raised (IMF 2011). In addition to being incorrect, this advice is inconsistent since it creates the risks it later warns against. Over the July-September quarter in 2011, as the policy repo rate was raised from 7.5 to 8.25 per cent, manufacturing growth fell to 2.7 per cent, and banks saw worsening asset quality. Similarly, peaks in exchange rates followed international pressure for a hands-off policy despite large capital flow fluctuations.

5.3 Assessment of risks for Indian banks

According to market perception, credit risk is high for Indian banks because of public sector ownership and directions for lending. Market risk is high because of the tightening cycle of monetary policy. Spillovers from the Euro debt crisis add to exchange rate risk, as slowing foreign inflows cause sharp depreciation. The drying up of dollar inflows can also affect liquidity.

However, strong oversight, the successful past use of countercyclical prudential regulation, the legacy of deposits so that banks are not so dependent on borrowed funds, limits on open FX positions to reduce cross-border exposures, all lower systemic risk. The Indian banking system will escape any blow up of the European debt crisis, just as it escaped the GFC. There is no exposure to exotic derivatives or to foreign sovereign debt; more than a quarter of deposits are invested in high quality government securities, interest rates are not so low as to provoke a risky search for yield. A sharp rise in credit growth is an indicator of risk build-up, but credit growth in the post-Lehman crash period has been low.[11] Mark to market, which is procyclical, is limited.

[11] Over fiscal years 2008-11, bank credit growth averaged 18.6 per cent per annum compared to 29.6 per cent in the four prior years.

One estimate of the expected impact of cyclical slowing on the banking sector is only half of one year's profit.[12]

The structure of regulation compensates for the potential moral hazard from public ownership and the government's record of never letting any bank fail (which it shares with Europe). Some aspects of this regulatory structure should continue even with further financial development, and would complement and strengthen Basel III.

The steady market and institutional development allows interest and exchange rates to be market determined, reduces their volatility, improves monetary transmission, and disciplines government. It must continue. But since markets remain thin,[13] excessive swings in interest and exchange rates are possible – policy must prevent these. A tightening of policy rates has a larger impact on market and lending rates because of high spreads. High lending rates have a greater impact on asset quality because of the larger share of loans. Therefore, monetary tightening must be careful not to allow too sharp a rise in rates.

Similarly, flexible exchange rates reduce implicit government warranties that encourage excessive unhedged foreign borrowing, thus reducing the probability of currency and financial crises (Chang and Velasco, 1999). India now has a flexible exchange rate. But a pure float can lead to excessive volatility in thin markets,[14] creating risks for firms and the banks that finance them. In a time of fragile global markets, this can occur due to reasons unrelated to the domestic cycle, and cause large deviations from equilibrium exchange rates.[15] Therefore, international pressures pushing EMs towards fully floating exchange rates, without any measures to mitigate excessive capital fluctuations, create risks for them. Instead of warning about potential crises, and helping only countries in a full-blown crisis, it is more productive to nip contagion in the bud.

It follows market risk can also be contained for Indian banks as long as Indian policy makers succeed in moderating sharp movements in asset prices. There is scope for a safe rise in credit ratios, and wider expansion of banking services, since the banked section of the population is only 40 per cent.

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[12] Aditya Puri, MD of HDFC bank, in a Times of India, Mumbai edition, interview on November 28, 2011. Uday Kotak, in a conversation in December 2011, said bad loans reduce banks' value by 3 per cent.

[13] In an EM, liberalisation can lead to an upward pressure on loan rates as more creditworthy firms begin to raise funds abroad (Goyal and Dash, 2000). Moreover, despite restrictions, short-term arbitrage occurs as interest differentials rise. Goyal et al. (2009) find that FX market turnover rises with the interest differential.

[14] See Goyal (2011a) for a rigorous proof in a DSGE model for a small open economy.

[15] The problems are compounded when some EMs have fixed exchange rates. Agarwal and Goyal (2005) find risks rise for many Asian EM banks, as the country's exchange rate deviates from the Renminbi.

RBI (2011b) shows that although regulatory ratios remain healthy in September 2011 compared to 2010, growth in banks' net interest income has fallen to 15.5 per cent from 40.7 per cent and in PAT, from 31 per cent to 2 per cent. Restructured power and telecom accounts are 8.5 per cent of total accounts. The slowdown is affecting credit quality but, since it varies across banks, it is not systemic. The Q2 (2011-12) results for SBI, India's largest public sector bank accounting for over a fifth of Indian banking, and ICICI, one of the largest private banks, demonstrate the effects of the sharp tightening cycle. As working capital loans were all reset so the net interest margin improved to 3.79 per cent from 3.43 per cent, SBI's profits rose after two bad quarters. Interest margins still remain high by international standards. But gross NPAs also rose from 3.35 per cent of loans to 4.19 per cent. Net NPAs (after adjusting gross for provisions) rose to above 2.04 per cent for the first time after several years. Bad loans are not written off to reduce gross NPAs in order to give the recovery a chance. CRAR was 11.4 per cent but tier-I capital at 7.47 per cent had fallen below Basel III levels. In ICICI bank, which had gone through a period of consolidation, and was not subject to government pressure to make loans to aid the recovery, profits fell but NPAs were only 0.9 per cent. In 2011, the market capitalisation of 24 listed public sector banks, controlling 73 per cent of bank deposits, fell below that of the 15 listed private sector banks, since the latter have freedom to raise equity in any manner. Both ICICI and HDFC banks have more foreign than domestic investment.

6. Conclusion

To summarise, structural risks are low in Indian banks. The path of steady market development and regulatory evolution has helped reduce these risks. Cyclical risks are rising but they are not of a very large magnitude, as long as policy makers moderate large fluctuations in asset prices. This is required since markets remain thin.

Much more nuanced assessments of risks in alternative banking systems, complementary macroeconomic policies and regulatory structure, and evolution of regulation are required. Moreover, the goal posts of banking structure and regulation cannot remain the same after the GFC. EM banks have to continue to modernise but an ideal regulatory system should adopt some current EM practices. Regulation based on broad ratios is a way of reducing risk for banks without the disincentives for activity that full or no liability involves. Awareness has to be created about these issues since markets tend to punish any deviation from advanced country norms without understanding the contextual differences.

The highly bank-based regulatory stance of the BCBS is a problem for EMs since their financial systems are bank-dominated, already have strong regulation and taxes but are yet have to reach scale. The impact of additional requirements under Basel III may be onerous, especially since the shadow banking system that plays a large part in volatile flows to the region escapes regulation. Ideally, the regulatory package should be

redesigned and lightened for banks, yet be spread more widely to cover shadow banks too.

To the extent inflation, interest and exchange rate risks are due to global inflows and commodity price shocks aggravated by these flows, global institutions must design special contingent capital lines for affected countries. Such support could be triggered automatically whenever global risk rises and there is a tendency for capital to revert to the US. If contagion is reduced and global demand supported, aggregate intervention will be lower, leading to a more effective use of global resources.

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