

*Lessons for Financial Policymaking - Interpreting the Dilemmas**

Shyamala Gopinath

I was really struggling to select a theme for today's address. I intended it to be relevant but not repetitive, comprehensive but not broad brush, having a policymaker's perspective but not too unidimensional. Finally the theme I zeroed down on emerged out of this very exercise of the balancing act - the dilemmas and conflicts thrown up for the policymakers by the paradoxical character of recent turn of events in the global financial markets.

It is rather surprising for a crisis of this magnitude not to give clear directions for the future. Yes, there is now a generally accepted sequence of events and the reasons for this crisis are well understood.

Also the global nature of the crisis in which all the advanced economies have been impacted is striking. The failure of market discipline and self regulation is also apparent. We already have the report on a framework for financial stability by the Group of Thirty, the High Level Group on Financial Supervision in EU, and the G-20 has set up several working groups. While some involve action that can be considered in the immediate future most recommendations are long-term in nature since the priority now is to stabilise financial markets and support growth and mitigate the consequences of the fall-out.

It is quite possible that the financial system post-crisis will be different from the one existing before the crisis. However, the inherent paradoxes could constrain a fundamental breakout from the existing framework. Importantly, implementation of longer term measures is dependent on the outcomes of the responses to the present crisis. I intend to touch upon some of these paradoxes which are also relevant in our context.

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Prudential regulatory framework – limitations of the current capital centric approach

2. Since 1999, the predominant focus of the international supervisory community has been the formulation and implementation of the Basel II framework. The assumptions underlying the new framework were that the financial systems had become extremely sophisticated and banks had in place strong risk management systems and therefore, it was possible to have a capital adequacy framework which is based on the Internal Ratings Based (IRB) models rather than a set of uniform risk weights, as was the case with Basel I regime. Similarly, where the banks did not have such risk management systems in place, it could be based on external credit ratings. The expectation was that under this framework, capital will get more responsive to the risk profile of a bank. The current crisis, however, has called into question the assumptions about the efficacy of internal risk management systems and a serious failure of risk governance systems has been amply evident. Moreover, model-based risk assessments underestimated the exposure to common shocks and tail risks and thereby the overall risk exposure. Furthermore, banks were found to be indulging in regulatory arbitrage and through off-balance sheet vehicles, expanded their business significantly without maintaining capital, even though the risks were not entirely hived off and continued to remain with the bank.

3. Almost all the prognostic analyses/reports on the crisis agree that current financial regulations tend to encourage pro-cyclical risk taking which increases both the likelihood as well as accentuates the severity

of financial crises. One suggestion is to establish capital benchmarks as a broad range, rather than as a point prescription, within which capital ratios should be managed. The supervisory expectation should be that when markets are in an upturn and there is a tendency to under price the risks, banks should operate at the upper end of the range. A simpler alternative could be to tighten capital requirements during good times and reduce them in downturns without actually specifying a range but working through the Supervisory Review Process under Pillar 2 of Basel II Framework. In effect, it would mean building up capital buffers in good times for using them when needed.

Dynamic Provisioning

4. Simultaneously it may be necessary to adopt counter cyclical provisioning measures. The case of Spain has been widely quoted, which introduced across the board increase in provisioning requirements, the dynamic provisioning approach. This is based on the premise that loans given at the top of the cycle tend to have higher losses as the cycle turns. In downturns defaults tend to emerge requiring more provisions. Banks should therefore be required to set aside a general provision against likely future loss each time they write a loan on the basis of a formula which is sensitive to the cycle. This being an accounting provision, would have the effect of reducing the distributable profits, and will thereby constrain the dividends and profit-linked bonuses. These provisions could then be drawn down automatically as losses appear. In effect, this approach requires banks to build up reserves in the upswing of a cycle

which can cushion their losses during the downswing.

5. We, in India, also adopted a similar approach through a calibrated increase in the risk weights and provisioning requirements during the period of rapid credit growth. However, the important difference was that our approach entailed sector-specific prescriptions. The objective was not so much to lean against the wind of rising asset prices but as a cautionary measure to contain the exposure of the banking sector to sensitive asset classes where rapid credit expansion was observed. It is commonly agreed now that the monetary authorities can't avoid creation of bubbles by targeting asset prices. However, they should communicate their concerns on the sustainability of strong increase in asset prices and contribute to a more objective assessment of systemic risks.

6. However, this is where there is a tension between the regulatory approach and the accounting rule makers who, view such counter-cyclical measures as being liable to be misused for profit smoothening and find it against their basic principles of transparency and reporting plain economic reality. According to the critics, dynamic provisioning is a form of "cookie-jar accounting" and has the potential for misuse. Earnings management of an entity is not something which is acceptable to the accounting profession since there have been accounting frauds which involved cookie jars. A solution that is being considered for resolving this tension is to add a separate line, further down the balance sheet into shareholders' equity instead. The envisaged counter-cyclical provisions will, therefore, be made after the net profit has been arrived

at and will be in the nature of an appropriation of profits. This would be called something like "undistributable reserves" and to my mind, should also not be allowed to be included in regulatory capital – even though the general provisions are allowed to be treated as a part of Tier II capital, subject to the prescribed caps.

Going beyond 'capital'

7. As you are aware, over the years, the definition of "regulatory capital" of banks has gradually widened to include certain innovative and hybrid forms of capital also. For instance, besides the Tier I capital, banks are allowed to treat their external liabilities, meeting certain well defined criteria, as part of Tier II capital. A portion of capital towards securities business is also allowed in certain countries to be maintained as Tier III capital. The expectation was that yields on subordinated debt would reflect the perceived strength of the bank and would, therefore, function as an instrument of market discipline. Clearly, these expectations have not been met.

8. In the medium term, therefore, what may also need to be relooked into is the interpretation of the term 'regulatory capital'. When there are attempts to stress test the banks' balance sheets, the focus is on the tangible networth, which is the purest form of capital. The crisis, therefore, provides us an impetus to review the permissibility of hybrid/ innovative forms of capital instruments and the extent to which these should be allowed as a component of the banks' regulatory capital and greater emphasis has to be given to maintenance of Core capital.

9. Another important instrument to contain excessive leverage during an upswing is to introduce a "leverage ratio", in addition to the risk weighted capital ratio, covering both, the on-balance sheet assets and off balance sheet items. This practice is already in vogue in certain jurisdictions.

10. A more fundamental issue with a capital-centric approach of bank regulation is that even the most well capitalised banks have been found to have been caught up in the crisis spiral due to massive and immediate demands on liquidity. The capital buffers are of virtually no assistance in such times and what matters is the liquidity of the assets held by the bank and the nature of its interconnected dealings with other institutions. One view is that the financial regulator could give up its strong focus on capital adequacy alone in favor of a broader approach, which should encompass liquidity as a major determinant of the soundness of the financial system. It is, however, preferable to consider counter-cyclical liquidity requirements along with capital requirements. A proposal is to require banks to hold a varying proportion of their assets in a war-chest of government bonds and other highly liquid assets or there should be certain constraints on the extent to which they are allowed to tap wholesale funds. The overall framework should ensure availability of ample liquidity even in stressed conditions. This must include an assessment of the potential externalities across institutions. It is gratifying to note that the significance of the age-old SLR requirement in India and the ceiling prescribed on the inter-bank liabilities a few years ago is now getting recognised internationally, in the wake of the crisis.

11. It is important to note that while the gains of financial stability are not easily quantifiable nor its beneficiaries can be easily identified, the costs of regulation are much more obvious and transparent. Hence, crises that had been obviated are imperceptible and the demand for prudential regulations declines during prolonged good times, thereby increasing the ultimate cost of eventual crises.

Micro and macro prudential supervision

12. The framework for regulating the financial sector has traditionally been built on a microprudential foundation, where the primary objective is to limit the risk of financial distress of individual financial institutions. This approach is consistent with the objective of protecting depositor's interest and the integrity of the payments system. In contrast, the objective of macroprudential oversight is to limit systemic risk. It is not only important to consider the risk of distress of an individual bank but the aggregate risks of all interconnected entities in the system. Hence, there is a need to evolve an appropriate mix of the micro-prudential regulations within an overarching macro-prudential framework.

13. One of the lessons of the current crisis is that regulators need to understand the signals and identify appropriate tools to mitigate the build-up of systemic financial vulnerabilities more effectively. While financial stability reports did make such analysis particularly relating to the excess leverage and the under pricing of risk, such analysis was not translated into action in

view of the seemingly benign environment and confidence in risk management system, market discipline and self regulation.

14. A challenge for policymakers is to achieve the appropriate balance between the microprudential and macroprudential approaches to financial sector oversight. The micro prudential approach is bottom up while the macro approach is top down. In the case of the banking sector the macro prudential analysis is based on both backward looking indicators such as balance sheet profitability, asset quality and capital adequacy as well as forward looking indicators which identify major risk facing the banking sector. Several MPIs are constructed to summarise the available quantitative information covering competitive conditions in the banking sector, credit growth, asset market developments and the concentration of risks in the household and corporate sector.

Unregulated nodes in the financial architecture

15. The global financial system over the years has evolved into a huge behemoth with strikingly monolithic characteristics and close inter-linkages. The innovations in financial products and technology have also enabled the market players to acquire a variety of risk exposures, transcending their customary role definitions. Furthermore, the regulation of investment banks did not cover prudential oversight and they were allowed to build up excessive leverage. There was clear dichotomy here between the homogeneous financial profiles of various entities and the regulatory prescriptions they were subjected to.

Besides, there were also economic agents in the system which did not attract any regulations or were only nominally regulated but were active players in the system. These dimensions were sharply brought to the fore by the inability of international regulators to even assess the extent of exposure of major entities and distribution of risk in the system through the chain of inter-linkages, during the initial period of the crisis.

16. It is therefore not surprising that regulation of hitherto unregulated entities has been one of the key recommendations of many committees. The G-20 has called for a review of the scope of financial regulation. The November 15th communiqué referred to special emphasis on institutions, instruments and markets that are currently unregulated along with ensuring that all systemically important institutions are appropriately regulated. In regard to sponsorship and management of comingled private pools of capital, the Group of Thirty has suggested that they should ordinarily be prohibited and large proprietary trading should be limited by strict capital and liquidity requirements. The Group has noted that "...the increased emphasis on financial stability in the mandates of prudential regulators and central banks points to the need for greater, more systemic access to information crucial to understanding the potential for growing risk imbalances in the system." The High Level Group on Financial Supervision in the EU has suggested application of appropriate regulation in a proportionate manner to all firms or entities conducting financial activities which may have a systemic impact. These include hedge funds

investment banks, various off balance sheet items etc. Also that increased capital should be required for proprietary trading activities.

Dealing with cross-border issues

17. This leads us to the more complex issue of regulation and supervision of large complex financial conglomerates. It is even more challenging in the event of crisis resolution, especially for cross-border institutions. Experience has shown that the resolution of a crisis of a cross border nature is further complicated by a mismatch between the global nature of some financial institutions that operate in several jurisdictions and the national nature of solvency.

18. While developing harmonised insolvency regimes governing the resolution of large cross-border financial firms and remedial action frameworks would be desirable, the challenge is the responsibility of the national regulator to protect depositors and other creditors within its jurisdiction. While the crisis has seen a high degree of international cooperation, increasingly national regulators may look to ensuring that foreign entities maintain adequate liquidity and capital within their jurisdiction to protect domestic investors.

Does a Central Clearing Counterparty Reduce Counterparty Risk?

19. Counterparty risk became one of the key factors contributing to the clogging of financial markets as risk aversion increased globally. This was particularly evident in case of longer maturity derivative contracts

in the OTC market. Coupled with the non-transparent nature of the OTC markets which made the exact assessment of positions and exposures of various parties through maze of interconnected chains impossible, this shifted the preference for more standardised simple products to be traded on exchanges. Even where products are traded in OTC markets such as the CDS, there is a move already in US and Europe to move the CDS markets to the clearing houses – various models are being debated including central clearing *vis-à-vis* mere centralised settlement. Since the central counterparty, by definition, interposes itself in any transaction settled through it, the counterparty in any transaction cleared by a CCP would not be another market participant but the CCP itself. The key advantage of the CCP mechanism is the possibility of multilateral netting, which reduces counterparty risk for each member of the CCP, by reducing the net credit exposure.

20. However, the creation of a CCP means that the counterparty risk is now concentrated in a single agent, the clearing house. A universal acceptance of CCP model for everything will result in the concentration of risks at one point, which will become the single point of failure for market stability. In case of exchange traded products, there is also the issue of legal separation between the exchange and the CCP. Obviously then, the CCP has to be a highly regulated entity. The regulatory focus would be on the overall risk management systems in place, including the margining system and the nature and quality of collateral held by the CCP as part of the settlement guarantee fund. From a systemic

perspective also, this will be a critical issue since in crisis times, these will need to be invoked/liquidated. The implications of unwinding such collaterals on the market will be critical.

21. Even in term of effectiveness of the CCP in reducing exposures, a recent paper concludes that introducing a CCP for a particular asset class is helpful if the number of dealers is sufficiently large relative to the exposure- weighted number of other asset classes that continue to be bilaterally netted; for plausible cases, adding a CCP for one class of derivatives such as credit default swaps (CDS) can actually reduce netting efficiency and thereby lead to an increase in collateral demands and average exposure to counterparty default.¹

22. As the participants are aware, the Reserve Bank has favored a CCP model for settlement of forex and government securities trade and intend to extend this to OTC interest rate swaps and forwards.

Systemic Risk measurement

23. Like any other risk category, the first step towards regulating systemic risk is to identify its source and measure it. The most popular measure of risk for individual institutions, the VaR has been severely tested. Like many other financial models, the VaR model essentially hinges on the estimation of correlations between different assets and risk factors, which have to put it, simply have just broken down. There are already problems with this

institution specific framework. How do we go to the next level of 'systemic risk'? How do we define how much a particular firm contributes to systemic risk?

24. Some recent proposals attempt to incorporate systemic risk into the standard VaR measures. For instance, the Geneva report argues for CoVaR, based on the work of Adrian and Brunnermeier (2008), where CoVaR is the VaR of financial institutions conditional on other institutions being in distress. Another report by the New York University (Stern School of Business) proposes a systemic capital requirement based on the individual firm's contribution to aggregate tail risk. The problem with such solutions is that they attempt to give clean solutions to complex problems – their simplicity becomes their undoing.

25. Besides VaR, stress testing was another pillar on which the risk management framework at the banks rested. The stress tests were specifically intended to capture the tail risks, which were not captured by the VaR models. Here also, as with other models, the undoing was in the inputting the stress parameters which were conditioned by the prevailing perceptions of future risks and price movements. The more fundamental issue here, I feel, was the absence of a robust correspondence between the results of these stress tests and the response of the institutions thereto. The incentive structures and competitive forces prevented concrete action on adverse findings from the stress tests. Therefore such adverse scenarios would need to be captured again under the Pillar 2 process, in the capital requirements or the liquidity requirements, which carry huge costs. Ideally, the response has to come from within the institutions in

¹ "Does a Central Clearing Counterparty Reduce Counterparty Risk?" Darrell Duffy and Haoxiang Zhu, Stanford University.

the form of realignment of business focus, which I realise is not a feasible model to bank upon given the breakdown of self regulation. The supervisory review processes are meant to address such institution specific issues and still seem to be the best bet going forward.

Centrality of market prices

26. "Market prices cannot save us from market failures." I have borrowed that phrase from one of the commentaries of Avinash Persaud, who has been one of the most vocal critics of reliance on 'market prices' for regulatory and accounting frameworks. The inherent paradox is quite appealing and intuitive. The response of the regulated entity and the regulatory prescriptions to price movements in prices is standard and symmetric. The issues of reliability of 'market prices' apart, where does the cycle get broken?

27. The well functioning deep and liquid financial markets were supposed to reflect the 'true' price of a financial instrument, close to the theoretical, model dictated values. However, in reality, the market prices were determined as much by the funding positions of the market makers. This in turn, as it turned out, was critically driven by (i) the availability of systemic liquidity and well oiled money markets globally and (ii) the till then taken for granted, readiness of counterparties to extend funding – the counterparty credit risk. If it is these externalities which determine the 'market prices', the issue is how to filter out these components?

28. It will be a real challenge for the regulators to find ways to address these

issues, given that market prices will continue to be at the heart of the regulatory framework.

Accounting framework

29. The dilemma for the accounting policymakers is to push for a harmonised set of guidelines for all economic entities *vis-à-vis* the differential approach demanded in certain cases by the prudential requirements.

30. The present accounting approach is indifferent to the inter-temporal financial impacts of individual transactions as long as the net impact is accounted for over a period. From an accounting perspective, this may make sense but it does not recognise the incentive structure it induces in the conduct of business operations, which may not be healthy for the system as a whole. Ideally, accounting conventions need to be neutral with respect to the behaviour of financial players and market dynamics. While it is true that accounting can't capture future risks, the treatment of gains attributable to the future risks needs to address this aspect.

31. A related issue, from the financial stability perspective, is the extent of discretion the principles-based accounting framework provides the business entities in deciding the nature of each financial instrument. This could result in furthering a certain kind of herd behaviour among all the businesses depending on the phase of business cycle.

Reliance on ratings

32. The rating agencies have already received their share of blame for the crisis. That's the

easier part; the difficult part is to find viable alternatives – the rating agencies were part of a big machine that was working well as long as the going was good. Obviously, any alternative framework has to be in sync with the changed realities of the market. I will not be possible to think of any changes in this regard in isolation. At a fundamental level, what needs to change, and hopefully will change, is an understanding about what the ratings convey. What needs to change is an understanding of the difference between a AAA bond and a AAA CDO tranche. Here, more than the rating agencies, the responsibility will lie on the regulators to capture the differential risk characteristics of various instruments, even though identically rated, in a very specific manner in their prescriptions. Uniform capital requirements just based on credit ratings will need to be replaced by a more granular and nuanced regulatory approach.

Financial innovation

33. Much of the development in the financial sector internationally over the past couple of decades or so owes much to the open spirit of financial innovation. The recent turn of events, I would say, can be attributed more to the way the financial industry functions, given the underlying regulatory and the incentive structures, rather than on financial innovation, *per se*. The risk-return payoff in the financial sector is quite different than any other sector. The only blame I would put on the model-centric financial innovations was the false sense of certainty and comfort they provided to not merely those who did not understand the black boxes but even the institutional investors and rating agencies. The critical

element of judgement while interpreting and applying the models was found wanting. I am sure lessons would be learnt in this regard.

Conclusion

34. The financial system in India has been resilient in these trying times. Whatever fault points have been felt in the recent months do not owe their origin within the financial sector. As Governor Dr. Subbarao has aptly remarked in one of his speeches, Indian experience has been different in the sense that the strain in the real sector got transmitted to the financial sector unlike the other countries where it was the other way round. It is only through a constant process of mutual consultation between the market participants and the Reserve Bank that we will ride the difficult period. Going forward, the test for further market development will be based on an assessment of not only implications for an individual institution - micro prudential but also implications for systemic risks.

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