Financial stability: 10 questions and about seven answers

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I am very pleased to have been invited to speak at the Reserve Bank of Australia's 50th Anniversary Symposium. Before I embark on my assigned topic, permit me to extend my congratulations to the RBA. This is a central bank with a consistently strong voice in international forums. The Bank for International Settlements has benefited from the Reserve Bank's presence as a shareholder since 1970, and has profited immensely from the contribution of a succession of Reserve Bank visiting economists, both in Basel and in the Representative Office for Asia and the Pacific. Let me take this opportunity to express my appreciation of the strong record of collaboration between our two institutions and my hope for an ever stronger relationship.

I have turned my assignment into 10 questions about financial stability. Let me admit at the outset that I have answers, of varying certainty and clarity, for only about seven of them. I owe this format to Alan Blinder, who set out 16 questions and 12 answers on monetary policy at the Bank of Spain in 2006.[1] His ratio of answers to questions was higher than mine, as one would expect of a professor of economics at Princeton University speaking on a more settled subject. So I hope that you will accept my seven or so answers and allow me 70% as a passing grade.

1. Are financial booms and busts inherent in a market-based economic system?

Unfortunately, the answer is yes. Financial markets are not intrinsically stable. However, I would like to add a nuance to this answer. Before this crisis, many might have imagined that only emerging markets suffered from financial instability. After the Nordic banking crises, some clung to the hope that financial instability in advanced economies was just a transitional problem associated with financial deregulation. Now we have learned that financial markets are not self-stabilising under certain conditions, or that they do not self-stabilise at any socially acceptable cost.

We should recognise with Charles Kindleberger,[2] once a BIS economist, that manias, panics and crashes are not unusual. Indeed, a once-in-a-lifetime event seems to happen every five to 10 years. On one count, 93 countries experienced 117 systemic and 51 lesser disruptions of their financial systems in the quarter-century before the latest global financial crisis. That is six a year! Name the country that has not been hit!

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1 "Monetary policy today: sixteen questions and about twelve answers", in Bank of Spain, *Central banks in the 21st century.*

2 C Kindleberger and R Aliber, *Manias, panics and crashes*, 5th edition, Basingstoke: Palgrave Macmillan, 2005.

The answer is not to repress financial markets. Rather, it is to recognise that markets need rules, constraints and careful monitoring so that market failures are less frequent and less costly. And that the rules, constraints and monitoring exercises need a macroprudential approach – that is, one that tries to capture not only individual risks but system-wide risks.

Can that be done? Before the crisis, people who expressed concern about imbalances and risk mispricing were frequently asked: why do you think you know better than market participants? The question is important because many official bodies are now seeking to monitor financial risks better so that early action can be taken to prevent a crisis or lessen its potential costs. The IMF and the Financial Stability Board are engaged in such an early warning exercise and have the daunting task of spotting financial market problems before they crash around our ears. I think the crisis has suggested, not that we are smarter or know better than market participants, but rather that we have the luxury of longer horizons, different incentives and a public policy objective.

However, these are early days and we should be cautious about raising expectations too high. Indeed, one of the lessons of the crisis is that it was easier to recognise vulnerabilities than to do anything about them. It will never be easy to take unpopular preventive action to avert events that are perceived as low in probability and uncertain of timing.

2. Can private sector risk management keep risks under control?

Not alone. Let us consider this question with reference to both risk management within financial firms and the broader process by which market participants impose discipline on each other's risk-taking.

Regarding risk management within firms, it would be wrong to deny the very real progress that has been made. Conceptual and quantitative approaches have developed in many illuminating ways. However, it would be even more wrong to deny that risk management has proven less reliable than we hoped. Because, the capacity and the incentives to take risks have clearly overwhelmed any improvements in risk management. Risk management is about quantifying the infrequent, that is, assessing tail risks, where by definition experience is sparse. Even stress testing has been caught out, failing to consider those seemingly remote possibilities that have, in fact, come to haunt us over the last two years.[3] In short, we need risk management that can deal with both the known unknowns and those unknown unknowns.

Reform in this area will require that potential losses are assessed in relation to longer runs of data. In addition, assessments will need to take into account stressed market conditions, so that we keep our guard up even after the recent turmoil recedes from memory.

Most importantly, beyond the input and the models, we have seen weaknesses in governance and incentives within firms. After risk management had apparently tamed risk, management leveraged up in response to incentives to "increase shareholder value" on the basis of short-term results. Building wider shoulders for a road can save lives, but not if drivers simply speed up. Capital requirements are the speed limits of banking.

[3] R Alfaro and M Drehmann, "Macro stress tests and crises: what can we learn?", *BIS Quarterly Review*, December 2009, pp 29–41; Basel Committee on Banking Supervision, "Principles for sound stress testing practices and supervision – final paper", May 2009.

Regarding the larger-scale process of market discipline, the record here can only be described as disappointing. That individual financial firms failed to manage their risks is bad enough; that their counterparties allowed them to is worse.[4] Market discipline fell short not only with respect to firms, but also with respect to instruments. For instance, why did rating agencies and ultimate investors fail to insist that mortgage originators retain an interest in the mortgage so as to prevent moral hazard?[5] I am told that practice among mortgage lenders differed in Australia.

There is one final respect in which private risk management will not suffice to control risk. Each private firm takes the underlying risk in the financial system as a given. But even if every individual firm keeps its own risks in check, this does not preclude an accumulation of system-wide risk. The control of system-wide risk requires some contribution from the regulatory side.

3. Are capital requirements necessary and sufficient to achieve financial stability?

Yes, capital requirements are necessary; but, no, they are not sufficient. Indeed, I would argue that regulation was only part of the problem and it is only part of the answer. Capital is not enough; regulation is not enough.

As was said of the Bank of England, a bank has "a duty to be rich".[6] Capital requirements should draw on deep pockets that can absorb losses arising from financial and economic stress, thus reducing the risk of spillover from the financial sector to the real economy. Lessons have been drawn by the Basel Committee on Banking Supervision concerning the need to improve the quality of capital, to raise the level of capital and to improve the framework's capture of risk, especially as regards the trading book. And agreement has been reached that both belt and braces are needed, so that one's trousers are held up by a simpler leverage ratio even if the risk-weighted ratio is distorted by an inadequate risk assessment of the assets.[7]

One of the most fundamental improvements introduced by the Basel Committee in its reform package is the macroprudential focus to address both system-wide risks and the procyclical amplification of risks over time. We have learned that those deep pockets I just mentioned need to be made even deeper in good times so that more can be taken from them in bad times.

Capital is a central part of the financial reform, but the crisis highlighted the importance of *liquidity management*. A well capitalised bank is less likely to face a run. And a liquid entity has time to raise more equity. Maturity transformation is the job of banks, but so is maintaining adequate liquidity. The Basel Committee on Banking Supervision has addressed the shortcomings in the liquidity regulatory framework highlighted by the crisis by defining the liquidity buffers needed to promote resilience.[8] Banks should hold a

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[4] A Frankel, "The risk of relying on reputational capital: a case study of the 2007 failure of New Century Financial", *BIS Working Papers*, no 294, December 2009.

[5] I Fender and J Mitchell, "The future of securitisation: how to align incentives?", *BIS Quarterly Review*, September 2009, pp 27–43.

[6] R Sayers, *The Bank of England, 1891–1944*, Cambridge: Cambridge University Press, 1976, p 27.

[7] Basel Committee on Banking Supervision, "Strengthening the resilience of the banking sector – consultative document", December 2009.

[8] Basel Committee on Banking Supervision, "International framework for liquidity risk measurement, standards and monitoring – consultative document", December 2009.

sufficient stock of high-quality liquid assets to be able to survive a month-long loss of access to funding markets. This test is an extension of the one that has been applied in Australia. Banks also need to have a sound funding model that fits their business model.

Capital and liquidity are part of the core financial reforms, but dealing with systemic risk is a multifaceted task, and more measures are on the table. My next question will address this.

4. What is to be done about systemic risk?

We know the right direction even if we have not worked out the precise destination.

Even though the official response to the crisis was necessary to avoid the collapse of the financial system, it has created new challenges. Weak, large institutions have been kept alive and mergers have even made some institutions larger. Furthermore, the various support and rescue measures raise immense moral hazard issues if market participants count on their repetition at times of difficulty.

The global financial crisis underscored once again that systemic risk is not external to the functioning of financial markets. Systemic risk is not only about the knock-on effects of some external event like a meteor strike. In fact, the distress in financial markets during this crisis preceded any broad-based downturn in gross domestic product.[9] In retrospect, the muted risk spreads, low volatility and high asset prices and leverage going into 2007 were symptoms of latent instability. They were not just side effects of a tamer business cycle, just-in-time inventories or economic globalisation. Just when risk seemed most remote on the basis of market indicators and complacency was at its highest, the system was most fragile.

I already mentioned that capital buffers need to be built up in good times so that they can be drawn down in bad times.[10] In this way, we can address the risk of procyclicality in the financial system, the time dimension of systemic risk. In addition, systemic risk has a cross-sectional dimension, and we must address the common exposures/interlinkages among financial institutions. The systemic risk that a given firm poses is hard to measure, but it surely exists.[11] Somehow it must be internalised.

Six policy approaches can be distinguished.

- One is to propose higher prudential standards for large, connected and indispensable financial firms. These can be set in terms of risk-weighted assets or a simple leverage ratio or both, with the aim of lowering the probability of failure.

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[9] Alfaro and Drehmann, op cit.

[10] J Caruana, "The international policy response to financial crises: making the macroprudential approach operational", panel remarks, Jackson Hole, 21–22 August 2009; Bank for International Settlements, *79th Annual Report*, Chapter VII, June 2009; C Borio and M Drehmann, "Towards an operational framework for financial stability: 'fuzzy' measurement and its consequences", *BIS Working Papers*, no 284, June 2009, pp 5–8; BIS, "Addressing financial system procyclicality: a possible framework", note for the FSF Working Group on Market and Institutional Resilience, April 2009.

[11] Staff of the International Monetary Fund and the Bank for International Settlements, and the Secretariat of the Financial Stability Board, *Guidance to assess the systemic importance of financial institutions, markets and instruments: initial considerations*, report to the G20 finance ministers and central bank Governors, October 2009; N Tarashev, C Borio and K Tsatsaronis, "The systemic importance of financial institutions", *BIS Quarterly Review*, September 2009, pp 75–87.

These should be set for firms along a continuum, not for a set list of institutions deemed systemic.

- Second is to improve the system's capacity for an orderly resolution to a big, complex, cross-border institution's failure – no easy task. As noted, this is being actively worked on at the international level. When an important financial institution fails, appropriate capital requirements notwithstanding, resolution regimes must allow the failure to be managed across borders.[12] The Basel Committee has recommended that supervisors provide capital or other prudential incentives for banks to simplify group structures that are too complex to permit orderly and cost-effective resolution. It has also recommended the strengthening of national resolution powers, institution-specific contingency planning involving the institutions themselves as well as critical home and host jurisdictions, and measures to avoid contagion, such as the further strengthening of netting arrangements. Both the FSB and the BCBS are working hard to improve the resolution regimes even in complex cross-border cases.
- A third set is to limit the structure of firms or the scope of their activities. Proposals include splitting off safe banks or preventing core institutions from engaging in risky activities, limiting size or even promoting simpler structures and the use of standalone subsidiaries. This is an area where the discussion is still wide open.
- Fourth is to improve infrastructure in order to reduce interconnectedness and therefore the cost of default. Here, too, there has been progress. While capital requirements can keep institutions strong, financial stability depends on market structure and its plumbing, namely clearing and settlements. In Basel, the Committee on the Global Financial System and the Committee on Payment and Settlement Systems complement the Basel Committee on Banking Supervision. Counterparty credit risk can be larger than necessary in over-the-counter markets. A private interest in this market structure must not trump the public interest in organised exchanges or centralised counterparties, where these are feasible and meet strict sound standards.
- Fifth is the idea to tax bigness or interconnectedness. While this deserves study as a classic means of dealing with an externality, many questions arise. Would the tax end up being paid by customers, or even by shareholders if their control over management is weak? Wouldn't higher capital and liquidity requirements, and prudential incentives for simpler structures, be preferable?
- The last approach is to supervise systemic institutions more proactively, to ensure that the perimeter of financial regulation is maintained.

But, even with all these elements that are the core of financial reform, I think this crisis has shown that addressing system-wide risks properly requires two important additional building blocks: that macroeconomic policies take into account accumulating financial imbalances, and that international cooperation be sufficient to ensure consistency. Two upcoming questions address these themes.

[12] Basel Committee on Banking Supervision, *Report and recommendations of the Cross-border Bank Resolution Group*, September 2009.

5. What is the role of implementation?

This is a question that has not been satisfactorily answered, but there is some evidence from the recent crisis. Similar regulations have sometimes resulted in very different outcomes in different countries. This may be due to several factors: the structure of the financial system, the degree of sophistication, the different business models, etc. One of them, I believe, is the rigour with which rules were enforced.

Of course, banks in any economy that experiences a credit-fuelled asset boom will suffer in the bust. No supervisor can be confident of maintaining financial stability when real estate prices fall by 60% or 70%.

That said, we have to recognise that there was no simple mapping from the macroeconomy to distress in the banking system during the recent crisis. True, banks in countries with real estate booms and busts suffered. But those in the United States and the United Kingdom, which had placed their real estate exposures in special purpose vehicles, suffered more. At the same time, some Swiss and German banks were hit hard, not by exposures to German or Swiss borrowers, but rather by exposures to US real estate. What proved costly in these cases was cross-border investment in securitised assets.

These observations point to the importance of enforcement. The strength of supervision mattered, not just the rule-setting, as demonstrated by Australia and Canada. Contrary to the notion that strict regulation restricts competiveness, the crisis shows that the financial systems of countries with strict supervision came out better.

There is another implication from the imperfect mapping between home country and exposure to troubled assets – that is, the vulnerability of the banking system must be assessed in relation not only to credit and asset developments in the home economy, but also to the array of countries to which the banking system is exposed. A final implication, to which I will return in a moment, is that international coordination of supervision is vital.

6. Is narrow banking the solution to the problem of financial instability?

Not in general.

In a historical perspective, it is not surprising that narrow banking is enjoying renewed appeal after the latest credit-fuelled boom and bust. Simon made his argument at a similar moment in the 1930s.[13] Once again, a demonstration of the devilish potential of excessive risk-taking has led to proposals to cast out lending from the temple of money.

However, narrow banking would only ensure that credit risks move beyond the regulatory perimeter, with the result that financial instability would then strike outside those confines. The economy depends on a sustained flow of credit, not just on secure deposits and smooth payments. Grave instability can arise from risky quasi-banks that grow faster than safe banks during the boom, only to shrink rapidly during the crisis.

A case in point is the US money market fund industry. Through an autonomous market process, it divided itself into strict narrow banking ("government only" funds) and a looser model ("prime" funds). Lehman's failure led to a run from prime funds into government funds.[14] This threatened a disruptive contraction of credit to banks and firms. The US

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[13] H Simon, "Rules versus authorities in monetary policy", *Journal of Political Economy,* 1936, vol 44, pp 1–30.

[14] Consistent with Stanley Fischer's interpretation that money market fund shareholders are "showing they want higher returns and do not think they will have to bear the risk" in the discussion of J Boyd and M Gertler, "US commercial banking: trends, cycles, and policy", in O Blanchard and S Fischer (eds), *NBER Macroeconomics*

authorities extended lender of last resort support and ex post deposit insurance to stabilise the industry.

Recent US proposals – the so-called Volcker rule – to keep core financial institutions from engaging in businesses such as hedge funds, private equity and proprietary trading have the merit of restricting insured deposits to funding more traditional banking activities. But such plans would put a heavy burden on policing the borders of the firm, and they may create more complexity and interlinkages in the financial system. Where banking accounts for the larger part of the financial system, such restrictions could limit the supply of funds to riskier long-term activities that may merit financing under an appropriate risk management system.

Narrow or narrower banking may have its place in some cases, and supervisors should have the capacity to restrict some activities. But I am not convinced that it is appropriate in the general case, and I think it requires more careful consideration.

Perhaps the question should be posed: is there an appropriate model for global banking?

Here again we are groping for an answer, although there are lessons from the crisis.

Recent experience has certainly highlighted some of the limitations of a funding model that has banks borrowing wholesale funds in global markets and redistributing them across currencies and borders. Following the unprecedented breakdown of low-risk arbitrage, liquidity could no longer be readily and cheaply transformed from one major currency into another. Learning from that lesson, banks are now seeking out more stable and more diversified deposit bases. Those that operated on a decentralised multinational model, relying mostly on subsidiaries endowed with stable retail deposits, have emerged in better shape than banks with wholesale models.

However, we need to understand better what has worked and what has not worked. Several working groups of the Committee on the Global Financial System are taking up aspects of this question in response to the questions posed in the Financial Stability Board. An official of the Reserve Bank of Australia chairs one of these groups.

7. Does financial stability need help from monetary policy?

The answer is yes, but it must be emphasised that the way the question is posed is important. The question is not whether monetary policy should target asset prices.

It is tempting to make a neat Tinbergian assignment in which, under normal circumstances at least, price stability is assured by interest rate policy while financial stability is assured by macrofinancial policies, be they capital requirements or credit restrictions, general or sector-specific. In this conception, financial stability would have no claim on monetary policy.

As cases in point, one could cite the Hong Kong and Spanish experiences in dealing with real estate cycles without resort to interest rate policy. In the 1990s, Hong Kong money market yields were basically set by the Federal Reserve. In the 2000s, euro interest rates were set to euro area conditions. In both cases, real estate markets suffered a boom and bust cycle that threatened to devastate the banking system. The Hong Kong authorities

Annual 1993, Cambridge: MIT Press, 1993, p 377. See N Baba, R McCauley and S Ramaswamy, "US dollar money market funds and non-US banks", BIS *Quarterly Review*, March 2009, pp 65–81.

lowered maximum loan-to-value ratios in real estate lending,[15] while the Spanish authorities sought to build up buffers through forward-looking provisioning.[16] In both cases, banks proved more resilient to the eventual bust than they would otherwise have been.

But, in general, prudential policies do not suffice to maintain financial stability. This being the case, regulation would be overburdened without some help from monetary policy. After all, the short-term interest rate sets the cost of leverage, which figures prominently in any debt-fuelled asset bubble. Here in Australia, the Reserve Bank's interest rate policy in 2003 rightly erred on the side of tightness in the face of strong growth in house prices and credit.[17] There was concern in some quarters at the time that this was straying from the goal of price stability. In the light of experience, this shading of interest rate policy is better interpreted as having realised the Reserve Bank's stated goal of price stability over the business cycle.

8. Are central banks equipped for their financial stability role?

My view is that most are but that their state of readiness can be significantly improved.

It is easily observed that some central banks have or share responsibility for bank supervision while others do not. Matters differ on either side of the Tasman Sea; the major ASEAN central banks and the Reserve Bank of India are all also bank supervisors; Korea and Japan are in a position more analogous to that of the United Kingdom, with a separation between central banks and supervisors. And it should not be too controversial to say that central banks that also have supervisory powers are well placed to add a macro overlay to their firm-by-firm supervision.

By contrast, those without such powers will need to find other ways to influence macroprudential settings. Indeed, one might argue that the Asian central banks have been ahead of the curve with the use of macroprudential tools. No matter whether the institutional assignment of prudential supervision is to the central bank or not, the recent financial crisis has highlighted the prominent role that central banks should have in financial stability policy. This has raised important questions about mandates, expertise, tools, immunities and governance structures:

- What is the basis of the mandate to attend to financial stability? Is there a sound legislative basis or a clear public understanding of the responsibility to ensure financial stability?
- Does the central bank have the requisite expertise and resources? Can the models and points of view of the central bank be adapted to the assessment of financial vulnerabilities and the analysis of possible responses?
- Does the central bank have the requisite tools? Are these rusty from lack of use, or does the administrative or legal basis for new ones need to be established?

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[15] R McCauley, J Ruud, F Iacono, *Dodging bullets*, Chapter 10, Cambridge: MIT Press, 1999; S Gerlach and W Peng, "Bank lending and property prices in Hong Kong", *Journal of Banking & Finance*, vol 29, issue 2, February 2005, pp 461–81.

[16] J Caruana, "Monetary policy, financial stability and asset prices", *Documentos Ocasionales*, no 0507, Bank of Spain, 2005.

[17] A Cagliarini, C Kent and G Stevens, "Fifty years of monetary policy: what have we learned?", paper presented to this Symposium.

- Is the central bank's notion of independence adequate for new responsibilities? Does it need an extension of its legal immunities or changes in the purview of legislative oversight to carry out its financial stability responsibilities?
- Are loss-sharing arrangements robust enough to take on the balance sheet risks entailed by policies such as recent measures to restore financial stability?
- Does the central bank need changes to its governance arrangements, by analogy with the separation within the Reserve Bank of Australia between its Monetary Policy Committee and its Payments System Board?

Work is under way in the Committee on the Global Financial System that seeks to catalogue what has been done and what has worked. At the same time, there are efforts ongoing in the Central Bank Governance Forum on the internal arrangements for central bank work on financial stability. We hope to have better answers on this front soon.

9. Is it enough for everyone to keep his own house in order?[18]

No, we need international coordination. Just as risk management at individual firms does not add up to the stability of the financial markets, so, too, macroeconomic and financial stability at the national level does not necessarily add up to global financial stability.

Let me just highlight a number of key steps that are being taken to strengthen international coordination.

First, the perimeter of international coordination has widened. More countries are joining in the international response to the crisis. Let me emphasise that the recent enlargement of international discussions to major emerging economies has worked particularly well and efficiently.

Second, the G20 has provided a political impetus for financial regulatory reform and policy cooperation. This push will make for more coherent macroeconomic and financial policies across countries. In particular, the new mutual assessment exercise that is under way is a promising signal of the commitment of the G20 countries to cooperate on broader policies.

Third, the Financial Stability Board has a clear mandate to increase the international coordination of policymakers, financial regulators and supervisors. The Basel Process, which covers a wide range of cooperative efforts among banking supervisors, central bank financial market experts, and deposit insurance and insurance supervisors, is part of the efforts coordinated by the Financial Stability Board. These new institutional arrangements have already started to produce significant results. One example is the formation of colleges of supervisors to coordinate the oversight of those firms that span national boundaries.

Fourth, new mutual assessment processes will ensure that internationally agreed rules are enforced in all jurisdictions. The Financial Stability Board is conducting two kinds of peer review: one on themes and another on particular economies. The Basel Committee is also overseeing peer reviews.

All these are imperfect mechanisms, no doubt. But they give practical expression to the insight that global firms and global markets require global cooperation in regulation, supervision and macroeconomic policy.

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[18] T Padoa-Schioppa, "Interdependence and cooperation: an endangered pair?", *Past and future of central bank cooperation: policy panel discussion BIS Papers* No 27, February 2006, pp 4–7.

10. Will it be different next time?

I am inclined to think that, provided we do not become complacent, the answer may be positive.

There are many good reasons to hope that it will be different next time. These can be summarised as follows:

- We are building into the regulations much more resilience, especially with regard to capital and liquidity requirements.
- We are taking much better account of system-wide risk in its two major dimensions, the time dimension and the cross-sectional dimension.
- We are at least thinking about, if not entirely in agreement on, what contribution to financial stability can be expected from monetary, fiscal and tax policy.
- We have strengthened the structures of international cooperation and have broadened participation in them to hitherto excluded economies.
- We are systematically scanning financial markets for evidence of underlying vulnerabilities and unsustainable developments.

All that said, and borrowing from the recent work by Reinhart and Rogoff,[19] we must recall that the words "It's different this time" are some of the most demonstrably expensive words in the entire English language. The more we convince ourselves that we have mastered risk and uncertainty and the more confident we are that we have learned the lessons of the past, the more vulnerable we become to lethal overconfidence and the probability that things will again go unimaginably wrong.

So the best way to ensure that the next time really will be different is to remain vigilant and to avoid, at all costs, the thought that this time is different.

[19] C M Reinhart and K Rogoff, *This time is different: Eight centuries of financial folly*, Princeton University Press, 2009.