# Wrap-up Discussion

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Whenever financial markets drop precipitously, there are calls for central banks to cut interest rates and for regulators to extend the scope of regulation. Market participants eagerly join the clamour for rate cuts, but are less eager for greater regulation.

As we have discussed throughout the past day and a half, monetary policy and financial regulation have vital contributions to make to financial stability. But knee-jerk policy responses are more likely to be part of the problem than the solution.

I recognise that the central bankers represented around this table are less prone than others to these pressures. I also recognise that sometimes when central bankers ease policy amid market turmoil, there are often reasons that are not always outwardly visible at the time. With that in mind, I hope no-one assembled here takes too personally my critical look at where we have travelled in the journey towards financial stability. These criticisms are not directed at anyone or any country but to us all.

### 1.1 Avoiding the SOX Syndrome

During quiet times, it is easy to forget that one of the key challenges of policy formulation in a crisis is fashioning policy in the fog of war, where good judgment is easily lost and it is hard to differentiate reality from illusion. It is understandable that in such times, policy-makers judge that it is better to act now and live another day to deal with any adverse consequences than to forever regret that they did not do so. No one wishes to be viewed as a latter-day Montagu Norman.[1]

Yesterday, one of our colleagues remarked that the Sarbanes-Oxley (SOX) response to the severe loss of confidence in corporate America after the Enron and Worldcom debacles was an example of this 'in the heat of the moment' over-reaction. To avoid succumbing to the SOX Syndrome, it is important that policy-makers are ruthless in requiring policy to be aimed at solving a specific market failure, not just quelling the screams of those who claim that unless they are bailed out, the entire system will collapse. This is easier said than done, especially when the ground beneath you is shaking and sizeable chunks of the financial system are dropping around you. Until they are relocated to Mars, central bankers cannot be as impervious to political pressures as their constitutions might suggest.

It is important therefore that policy-makers have some independent benchmarks of performance in the area of financial stability. Regulators and central bankers consider it important to defend policy publicly, but are they clear in their own mind

1. Governor of the Bank of England (1920–1944).

about what policy success or failure looks like? If this year's cold and damp English summer is anything to go by, we cannot be in hell, but how do we know that we are not mistaking purgatory for heaven?

## 1.2 Policy performance issues

Politicians understandably avoid indicators or benchmarks of policy success, but independent central bankers can be more courageous – *at least in private*.

Franklin Allen presented to us an interesting paper on the fundamental market failure at work in financial markets and the implications of incomplete markets. Although the current situation is fluid, it is not clear to me from our discussion yesterday that the current failure in the financial markets is that monetary policy is excessively tight. It is important to get this judgment right. It is not so easy to drain off previous injections of liquidity. Many emergency rate cuts appear to have contributed to new, later crises.

The problems that gripped financial markets in August 2007 related to the loss of confidence in the value and valuation of credit instruments and uncertainty about the credit quality of their counterparties. The announcement by central banks that they would widen the range of instruments that can be used as collateral, hopefully at a memorably painful discount, would appear to have a better chance of dealing with the problem than a blanket cut in interest rates. I think Walter Bagehot would have approved.

Your average regulator's private benchmark for success is that there has been no bank failure under his or her watch. But the spread of the financial system beyond both banks and national borders means that this is too narrow and short-term a benchmark. It is possible today for local banks to be safer, but for the international financial system as a whole to be less so.

While there is much disagreement over the details, I think there is broad consensus over the objectives of financial stability policies. The opposite of financial stability is indiscriminate volatility in the availability of credit and capital. We wish to avoid several years of feasting, followed by famine. But there are trade-offs. The Soviet financial system had elements of stability, but this stability was delivered at enormous economic cost.

In considering whether we have achieved the right balance in this trade-off between efficiency and stability I would consider three issues in addition to the degree of generalised volatility in the financial system. First, is monetary policy less frequently used than before to bail out parts of the financial system? Today, monetary policy is increasingly focused on controlling inflation and so it would not be a sign of a successful financial and regulatory system if monetary policy had to set aside this task on a regular basis to rescue the financial system.

A second issue is whether greater risk-taking is a result of a better allocation of risks to those with a capacity to hold these risks. If credit, market and liquidity risks are being held by those with a greater capacity to bear them, more risks can be safely taken in aggregate than otherwise. But if institutions with a capacity for one

type of risk are selling it to several institutions without such a capacity, in order to earn fees and reduce regulatory reserves, this is not a sign of success.

A third issue is whether participation in financial markets is becoming more diverse. In a diverse financial system when one sector wants to sell an asset, for reasons specific to the way that sector values that asset, another sector may be happy to buy the same asset because they value its characteristics differently. Diversity supports stability.

These issues – frequency of policy interventions, allocation of risk to areas with a capacity for risk, and the degree of diversity – are all highly relevant to financial stability.

However, it is not clear to me that we are making substantial headway in the battle for financial stability – despite a significant and costly increase in the scale and reach of regulation over the past 20 years.

Let me make myself clear. I am not saying that banks have become less safe. I am saying that we should expect more from our heavy investment in financial stability. There has been a step change in regulation since 1985. We have far more regulations, regulators and compliance officers. The regulation of market and credit risks is far more sophisticated than before. None of this is without cost, either in terms of the financial costs of regulation, barriers to entry into the industry or restraint on product innovation. I am not against regulation or the extension of surveillance to new players, but I am concerned with the effectiveness of regulation and it is not clear to me that the financial system as a whole is substantially more stable than before. Do we have markedly fewer market runs and fewer emergency rate cuts? Do we wonder whether there has been a trade-off between bank safety and system stability?

During my career in the markets, I can recall the international policy response to the October 87 crash, to the Savings and Loans disaster in the US, to the Tequila crisis, to LTCM, to the bursting of the global dotcom bubble and now the response to a potential credit crunch. My friends in central banks who remember the war stories of old may argue that the frequency of emergency rate cuts or action have not increased, but I would rejoin that it has not noticeably declined. Indeed, the frequency of these policy interventions raises the question of whether monetary policy can successfully moderate the economic cycle (as opposed to aggravating it), if every four years or so – a period less than the average amplitude of a full economic cycle – there are emergency rate cuts.

Further, as I will argue in a moment, there are reasons to believe that risk is moving to places that do not have a capacity to bear the risk, making the system more fragile for a given amount of risk. The degree of effective diversity in the financial system has also become more limited, contributing to frequent market runs. Equally worrying is that these are trends that are encouraged by our current version of expensive and pervasive regulation.

When I hear some say that the absence of bank defaults means that we have won the battle of financial stability, I get an uneasy feeling, followed by visions of a President being airlifted on to an aircraft carrier with a big banner behind him saying 'Mission Accomplished'.

It is often said that the greater complexity and opacity of modern day finance is a key challenge for financial stability. I think this point is overstated. More importantly, the solution to this challenge, greater transparency and more financial education, while worthy goals for the sake of greater inclusiveness, will not stop market runs. The hedge fund managers that have fallen victim to their hubris this time around were hardly financial illiterates, nor did they have insufficient incentives to discover what they were investing in. Moreover, there are occasions when it is possible to argue that more transparency is aggravating trading in markets (see Persaud 2000).

I believe there are two, more important challenges to our achievement of greater financial stability.

## 1.3 Procyclicality

The first challenge is that for regulators, the economic cycle is 'the love that dare not speak its name'. Even though financial instability is driven in many ways by the economic cycle, regulators manage to write several hundred pages of financial regulation and rules without expressly dealing with it and central bankers are expected to focus on stabilising the price of a basket of goods under the shadow of giant bubbles and crashes in asset markets.

There are a number of reasons why the financial system is procyclical, relating in large part to the asymmetries of financial incentives and monetary policy. George Akerlof, Joe Stiglitz and others have long since given us the tools to analyse the implications of these asymmetries. We had a good discussion on the first day, led by Claudio Borio, on the issue of counter-cyclical policies (both monetary and regulatory). Claudio pointed out that this is an area that is fraught with difficulty. I think he is being too polite. This is an area where policy-makers lack ambition.

Whenever policy-makers set aside the very real issue of 'who' should worry about asset-market cycles, the most popular arguments against counter-cyclical measures are that policy-makers cannot second-guess the cycle better than market participants and that to start doing so exposes them to political manipulation. This argument held more water before the age of independent central banks and inflation targets. Today, central banks actively try and forecast the cycle.

Moreover, this argument over-complicates the problem. The ambition of counter-cyclical measures such as shifting reserve requirements or capital buffers, should not be to predict the cycle or to destroy it, but merely to 'lean against the wind' – to make policy less procyclical than otherwise. When William McChesney Martin, the longest-serving Chairman of the Federal Reserve, said that 'the Federal Reserve, as one writer put it, ... is in the position of the chaperone who has ordered the punch

bowl removed just when the party was really warming up',[2] he was not talking about a finely calibrated attempt to end the party at the right time, merely an attempt to moderate its consequences.

One of the glaring mistakes of the Basel II Capital Accord is that counter-cyclical measures are effectively ignored. One of its redeeming qualities is that counter-cyclical measures are possible under the supervisory discretion permitted under Pillar 2 of the Accord. It is true, as was discussed on the first day, that greater discretion for regulators and central bankers to judge the economic cycle could provide scope for political manipulation to return to monetary policy via this back door. However, the degree of policy discretion must be sensitive to institutional capacity. What is possible in Australia may not yet be possible in Albania. But one way of reducing the risk of excessive discretion is to institute the capital equivalent of automatic stabilisers, with capital buffers and reserves rising in some proportion to a rise in loan growth or broad measures of liquidity. Many of us have argued this point over the past 10 years (see Persaud and Spratt 2005). Indeed this entire debate is not new, was well covered in our first two sessions and I believe will be touched on in Philip Lowe's comments. Consequently, I would now like to turn my attention to the other major challenge for financial stability, the dangers of the risk-transfer model.

## 1.4 The risk-transfer model is based on three mistaken notions about financial risk

At the heart of the idea that it is better to spread risk across the financial system than concentrate it on banks' balance sheets are three fundamentally mistaken views about risk. I am sure this sounds like a bold statement, so let me pause to say that one of the hats I wear is as a founding director of the 60 000 strong global association of risk professionals and consultants who have played their part in the ascendancy of this faulty model of risk transfer.

The first mistaken notion is that if risk is divided up and spread across many holders then it is reduced. It is several years now since I and others showed that if you take several investors with very different investment strategies, but give them the same dataset, have them adopt best-practice mean-variance analysis, a daily risk management system and apply prudential credit risk requirements, then they will end up buying similar instruments and selling the same instruments at the same time. Under these circumstances, far from being spread, the transfer of risks from banks to markets concentrates risk.

You can see this clearly today with the simultaneous collapses of a raft of highly secretive 'quant' equity funds that were supposedly using very different strategies.

The best-practice risk management and mean-variance models that these investors adopt do not take into account strategic behaviour and interdependence. The mathematics gets too complicated. These models assume that: the user is the

2. Martin (1955, p 12).

only one to own the assets that the data reveal have a historically good risk-return trade-off; that the user is the only one using a daily risk management system; and that the user is the only one required by their risk management rules to respond to a rise in risk by reducing or selling down risk. These remarkable assumptions explain why these systems often claim that a very large adverse shock to the market might be a once in a thousand year event. Such a statistically extreme event (*sic*) is often given as grounds for a monetary bail-out of financial institutions.

The upshot of all this is that we may have reduced the frequency of bank runs by turning them into market runs (of course banks are not impervious to market runs and so market runs could in turn lead to banking problems further down the road).

The frustrating thing about model-homogeneity is that it is to some extent self-imposed. Many long-term investors who could use time as a diversifier instead discard this vital form of risk diversification and adopt a daily risk management system in the name of best practice. Regulators tend to be a little incredulous that well-paid market participants could so enslave themselves to such self-destructive models, but to be fair, regulators have encouraged the use of these models themselves. Indeed, they often impose models of their own that have similar effects.

During this conference we have heard about a traditional regulatory framework based on a grid where the probability of an asset becoming non-performing is on one axis of the grid and the size of the potential loss is on the other. At the bottom left-hand corner is a box of assets that correspond to a low probability of a small loss and at the top right-hand corner is a box of assets with a high probability of a large loss. The point of this framework is that the regulator is supposed to highlight those assets that fall into this last box and to encourage institutions to reduce exposure to these toxic assets.

This appears eminently sensible. But it is not. Its premise is that bankers know nothing about banking. Financial institutions do not go out of their way to put toxic assets on their books. Assets turn toxic, through some event or development. They fall into the box of assets with a high probability of a large loss most frequently in times of general market stress when liquidity has dried up. This is precisely not the time you want to force owners to sell these assets. This framework will only begin to bite in circumstances where it would be sensible not to follow it.

## 1.5 Risk absorption and risk pricing are not the same

The second mistaken notion, related to the first, is to consider that the more risk is traded and priced, the more risk is being actively managed.

Shifting credit risks from bank balance sheets to hedge funds and bank proprietary trading desks, where they are priced more continuously, has undoubted benefits. It improves what I would call search liquidity, the ability to sell or buy instruments in quiet times and one would assume that it should improve the pricing of risks.

But these risk-traders are not risk-absorbers. They do not have large capital buffers to hold on to risks and they have less incentive to research idiosyncratic risk because they only intend to hold on to these instruments for a short period of

time. Consequently, these risk-traders are not willing to take contrarian bets on instruments that are falling in value, becoming illiquid, and with which they are unfamiliar. Their risk management strategy is to sell the risk before others do.

This is fine when markets are calm and price declines bring out buyers. It is not when volatility rises and risk management systems force many to be sellers. In these circumstances price declines lead to more price declines and we have a market run. The emergence of credit hedge funds potentially improves the pricing of risk – though I am not sure you could say that with a straight face today. But more risk-trading does not mean more risk-absorption. Financial market liquidity requires contrarians, but as a result of capital constraints and risk management practices, traders of risk do not have the capacity to be contrarians in crisis environments.

## 1.6 Risk is a chameleon

The third mistaken notion in the risk-transfer model is that risk is independent of the owner and so the transfer of risk from one person to another is neutral from a systemic point of view. In fact, the same instrument could be risky for me to hold, but safe for someone else to hold. Although it is routinely done, risk cannot be treated as if it is a block that you can slice and dice. It is a chameleon.

An instrument of good credit quality, backed by a state agency for example, but where there is no exchange market and hence no near-term liquidity, is risky if I am a bank funded by daily deposits, but is not risky if I am running a 20-year pension fund. The implication of this is that there are different types of risk and different actors may have different capacities for these different risks. An objective of system stability should be to facilitate the right risks going to the right places or, at least for the less dirigiste amongst you, not inadvertently encouraging risks to be transferred to places without a capacity to hold them.

The point is that we need to consider where risk capacities lie to consider whether a risk transfer is reducing risk or concentrating risk. This needs to be done at a national and global level but it is currently done at neither.

Public and private equity risks can be diversified across time and so an investor that can offer time diversification, like a young pension fund, has a greater capacity for public and private equity instruments than someone who cannot use time as a diversifier. Time is not a diversifier for credit risks however. Credit risks are best diversified by constant access to many different short-term credit risks. Institutions with large access to diversified credits, like banks, have a greater capacity for holding credit risks than those that do not.

Consequently, it is not so clearly a good thing, that as a result of the current financial stability framework, credit risks are being sold from banks to pension funds, or for banks to own private equity funds.

## 1.7 Summary

Let me end with the following short summary.

Policy-makers get too caught up in the popular fascination with innovation in financial instruments and institutions. This is a space in constant flux. It is more important to focus on financial behaviour and how behaviour leads to the distribution of risk and capital.

My view is that despite all the financial innovation and the dramatic rise in financial regulation, the underlying behaviour, where the availability of capital follows the cycle of feast and famine, has not appreciably changed. We have merely replaced bank runs with market runs. Today's credit crunch follows a long period during which market participants built up excessive risks. The indiscriminate volatility of capital availability is undesirable. It causes harm and does not provide financial institutions with the incentive to adopt prudential attitudes.

The instability of the availability of capital is related to two things: first, the procyclicality of market incentives and of monetary and regulatory policy; and second, a faulty risk-transfer model. From where we are today, with the advent of inflation targeting and independent central banks, a greater degree of counter-cyclical monetary and regulatory policy is not as ambitious as it would have sounded 20 years ago. The risk-transfer model does not work because risk is not independent of behaviour and the capacity to gauge and bear risk. Policy-makers need to stand back, survey and take a top-down approach to assessing where risk capacity lies and how we should ensure that we have not blocked the path of risk moving to those places at a global level. Thank you.

## References

Martin WM, Jr (1955), address before the New York Group of the Investment Bankers Association of America, New York City, 19 October.

Persaud AD (2000), 'Sending the Herd off the Cliff Edge: The Disturbing Interaction between Herding and Market-Sensitive Risk Management Practices', First Prize in the Institute of International Finance's Jacques de Larosiere Awards in Global Finance.

Persaud AD and S Spratt (2005), 'Implementing Basle 2 in Developing Countries: Possibilities, Problems and an Alternative Solution', paper prepared for the 2005 Commonwealth Finance Ministers Meeting, 18 September, Barbados.

## 2. Philip Lowe

As has been noted a number of times over the past day and a half, the timing of this conference has turned out to be impeccable. I say this for two reasons.

First, the events of recent weeks have served as a reminder that the issues we have been talking about are very important. Indeed, these issues have been on the front page of almost every major newspaper around the world on a daily basis. While financial stability is something that most people think about rarely in good economic times, when financial turmoil occurs, everybody takes notice!

Second, these events have also reminded us that the issues that some of the people in this room have been writing about for many years are more than of theoretical interest. In the good times, it can be hard to write about the threat to financial stability posed by a build-up of risk in the financial system. Most people do not want to hear about what 'could go wrong'. Recent events, however, show us that those who have been thinking and writing about these issues have not been wasting their time.

In my remarks, I would like to pick up on five themes that I see as having run through the discussions at the conference. These are:

1. the tremendous change in the financial system;
2. the tendency for risk to be periodically mispriced;
3. the increasing complementarity between markets and institutions, and in particular, the important role that disruptions to liquidity can play in amplifying financial disturbances;
4. the difficulties associated with cross-border crisis management; and
5. the change in household balance sheets.

Given the time constraints, I am not able to do justice to all of these themes. Instead, I will focus my comments on some of the relevant policy issues.

### 2.1 Change in the financial system

There have been ten papers discussed at this conference. When I read these papers I was struck by the fact that four of them started with essentially exactly the same sentence – that is, 'there has been tremendous change in the financial system'. And the other six papers contained this same idea on the first page. I think it is fair to say that there is little disagreement that we have witnessed a financial revolution over the past decade or so!

During the conference we discussed why this revolution has occurred and whether it has been a good thing.

The papers by Claudio Borio and Nigel Jenkinson *et al* presented very nice summaries of both the extent of the changes and the various factors that have caused these changes. My sense is that there was little disagreement about the driving forces: financial liberalisation, both domestically and globally; advances in information technology; improvements in communications; and low and stable inflation.

Perhaps the more interesting issue is whether these changes have been for the better. My assessment of the discussion is that there is a strong consensus that the answer is yes – few people really want to wind the clock back. And I think it is reasonably clear why this is so. Compared to decades past, the financial system is allocating credit risk more effectively, there are fewer liquidity constraints, and the process of financial intermediation is both more efficient and competitive. Giuseppe Bertola's paper also reminds us that in a world in which trade in goods and services has been liberalised, financial liberalisation helps people deal more effectively with risks to their income, and helps promote better public policies in a range of areas.

Notwithstanding this generally positive assessment, there are a number of aspects of this financial revolution that raise concerns. Reflecting the discussion at the conference, the three that I am going to focus on are: the possibility that markets and institutions periodically misprice risk; the importance of liquidity to the smooth functioning of the financial system; and the difficulties of cross-border crisis management.

## 2.2 Mispricing of risk

The possibility that risk is periodically mispriced has permeated many of the discussions at the conference, and has also been raised in almost every financial stability review issued by a central bank over recent years. This idea, however, seems to collide with another idea that we discussed at the conference: that is, risk is better measured and managed by financial institutions than was the case a decade ago. On the one hand risk is being mispriced, but on the other hand it is being better measured and managed!

These apparently conflicting views can be reconciled – and the paper by Claudio Borio suggests how. Few people would disagree with the idea that the cross-section dimension of risk is better measured and understood than it was a decade ago. Financial institutions have put in place effective tools for measuring the relative riskiness of different entities, and the sophistication of risk management frameworks has increased significantly. However, much less progress has been made in measuring the time dimension of risk: as a result it remains more difficult to assess whether overall risk is higher today than it was yesterday, as opposed to whether, at a particular point, one borrower is more risky than another.

This difficulty in assessing the time dimension of risk opens up the possibility that risk is periodically mispriced. As we heard a number of times throughout the conference, there is a natural tendency for many people to believe that the world has changed – 'that this time things will be different'. Why this is so is a difficult question, but it perhaps partly reflects the underlying natural optimism of most people. Whatever the reason, the result is that there is an apparent tendency for risk to be underpriced in good times, and perhaps overpriced in downturns.

A second explanation for the mispricing of risk is that it is the result of the incentive structures within the financial system, rather than the difficulties of assessing risk. According to this line of argument, in good times many people are concerned that

risk is being mispriced, but they still end up buying assets with too much debt, at prices that are too high.

During our discussions on this issue I was reminded of a recent conversation I had with my young daughter. When I asked her why she had been misbehaving, her answer was that her brothers were also misbehaving. The logic seemed to be that if they were all making poor choices then it was somehow okay. In a way, the same logic sometimes appears to hold in the financial system – if we are all buying assets at inflated prices, it is not as bad as if I am the only one doing so. In part this reflects the nature of remuneration arrangements, which are often short term, and the large penalties that sometimes apply for deviating from the mean. Also, if a financial institution wants to protect its franchise value, it may feel that it has to go with the flow, even if it feels that it should not be doing so.

Whatever the reasons for the mispricing of risk, an issue that we discussed is how policy-makers should respond when they are concerned that risk is being mispriced. Some see this as one of the critically important questions facing both central banks and supervisors, particularly given the potential for the mispricing of risk to sow the seeds of future instability. Arguably, this potential has increased over recent decades as the size of the financial sector has increased relative to economic activity.

The paper by Claudio Borio provides an excellent summary of the various policy options. At the supervisory level, the paper talks about developing automatic stabilisers. It also talks about supervisors using their instruments in a discretionary fashion in order to contain the build-up of financial imbalances in a boom. In our discussions, no consensus was reached about either the feasibility or the desirability of either approach. Some participants thought that prudential instruments could be used in a discretionary fashion, while others pointed to a number of practical challenges, as well as the possibility of political interference. Another possibility was for monetary policy to be used to contain the build-up of imbalances, but again there was no consensus as to whether this is a sensible thing to do.

My sense of the discussion was that no institution is actively seeking the daunting task of trying to contain the build-up of financial imbalances. There are a number of good reasons why this is so, but I will focus on just two.

The first is that it is technically challenging. If policy is to respond to the mispricing of risk and the build-up of imbalances, an assessment needs to be made about the scale of any imbalances and their potential effect on the economy. In addition, the movement in the relevant policy instrument needs to be calibrated. These are very difficult tasks. But they are not insurmountable. Both central banks and supervisors are constantly making decisions under uncertainty. Both are used to making probabilistic assessments about the future and the impact of their policies. What is required here is no different, although the degree of uncertainty is most likely higher than in cases in which policy instruments are used in a more traditional fashion.

The second reason has more to do with political economy. In particular, neither central banks nor supervisors want to be blamed for bringing a boom to an end. Taking action to curtail a boom on the grounds that doing so might avoid bigger problems later on is unlikely to be popular, particularly when the timing and severity of any

future problems are difficult to pin down. This means that both central banks and supervisors are reluctant to respond to perceived financial imbalances unless any response is seen to be consistent with the pursuit of their standard policy objectives. If this reluctance is to be overcome, there needs to be a degree of acceptance by the public that containing the build-up of risk in the financial system is indeed appropriate, at least under some circumstances.

This still leaves open the question of whether this task is best assigned to supervisory authorities or central banks. There is no universally correct answer here. However, in a deregulated financial system, with strong capital markets, it is likely to be more difficult to use prudential policy to contain the build-up of imbalances than is the case in more heavily regulated systems. In a financial system with strong capital markets, a tightening of prudential requirements on regulated entities is likely to lead to a shift in financing to the capital markets. This means that in such systems, the case for using monetary policy (as opposed to prudential policy) to contain financial imbalances is stronger than in more regulated systems. Furthermore, using monetary policy in this way is not necessarily inconsistent with inflation targeting, particularly if inflation targeting is viewed as a way of delivering low average inflation, rather than always keeping inflation in a narrow band.

## 2.3 Liquidity

A second issue raised by the financial revolution of the past decade is that of liquidity. This is discussed in four of the papers presented at the conference: those by Claudio Borio, Chris Ryan and Chris Thompson, John Laker, and Franklin Allen and Elena Carletti. This focus is very timely, given that recent events have illustrated all too clearly how the effect of financial shocks can be amplified by a tightening of funding liquidity and the evaporation of transactional liquidity in financial markets.

There is a fairly wide consensus that liquidity management has not received the attention that it has deserved over recent years. Considerable comfort had been taken from the fact that credit risk transfer markets had widely dispersed credit risk, reducing the likelihood that adverse credit events would seriously impair financial institutions. But it turns out that the markets that have dispersed this credit risk have also increased liquidity risk, and arguably made it more concentrated, with banks being the providers of liquidity to the capital markets. Somewhat ironically, the growth of financial markets has actually increased the importance of banks to the smooth functioning of the financial system, partly due to their role as liquidity providers.

The discussions at the conference highlighted the fact that the recent liquidity problems stem partly from a large and sudden increase in uncertainty. When uncertainty increases, institutions become reluctant to commit their funds for other than short terms – when they are unsure about what will happen tomorrow, they want to maintain maximum flexibility and do not want to tie up their assets today. This is exactly what happened during August. Financial institutions: were uncertain as to when and where the losses from the sub-prime problems would show up; were uncertain about the extent to which credit lines would be called upon; and were

uncertain about the value of some of their investments. In this environment, it is hardly surprising that institutions did not want to commit their funds for other than very short periods – hence, the large increase in interbank term funding costs and the strains in many financial markets.

What then are the possible lessons for public policy? Our discussions focused on four possibilities.

First, the paper by Franklin Allen and Elena Carletti set an aspirational goal: that is the creation of a complete set of markets that would overcome the asset-price instability that is often associated with liquidity strains. It is difficult to disagree with this idea. But we are a long way from achieving this, and there must be a reasonable chance that we will never get there!

Second, the regulatory community needs to spend more resources understanding the role of the provision of liquidity in maintaining the smooth functioning of financial markets and the management of liquidity by financial institutions. The Basel Committee has already started work here, but much more needs to be done.

Third, ways need to be found to improve the flow of information, so that spikes in uncertainty do not derail the normal functioning of the financial system. In the current episode, the problems were heightened by investors not knowing where the losses would show up and by investors having purchased securities that they did not understand very well. Greater transparency regarding the current state of balance sheets would be useful, as would an increase in the effort that investors make in understanding complex investments and a reduction in their reliance on credit ratings.

And the fourth possible lesson concerns the provision of liquidity by the central bank. If the central bank is prepared to deal in a wide range of instruments, liquidity premia are likely to be smaller than otherwise and institutions can have greater confidence that they will be able to obtain funding if needed. In turn, if sound institutions have confidence that they can access liquidity when needed, they are more likely to be prepared to commit their funds for other than very short terms, and thus help the process of financial intermediation.

No doubt these possibilities will be discussed at many meetings and conferences in the months ahead!

## 2.4 Cross-border issues

A third aspect of the financial revolution that raises concerns is that of cross-border crisis management. This issue was raised by Claudio Borio and Kevin Davis, and most pointedly by Stefan Ingves.

There is a general sense of frustration at the lack of progress in coming to some agreement about how problems in a cross-border bank would be handled. While banking is becoming global, crisis management largely remains local, and many people feel uncomfortable about this. While central banks and regulators have spent considerable effort developing arrangements for cross-border information sharing,

progress on how problems would be resolved has been much slower. One reason for this is that the resolution of problems in a bank that operates across borders is likely to involve a number of governments. And in some cases, it is likely to involve public funds. But whose funds, and how precisely are those funds to be used? These are big questions, and understandably, governments are reluctant to commit to a particular course of action in advance of a problem. This makes agreeing on likely resolution strategies difficult.

One issue that is always just lurking beneath the surface in these discussions is that of trust. It is not unreasonable to assume that each country will act in its own self interest – which may not be in line with the common interest. In the Australian-New Zealand context, the two governments took a significant step to addressing this issue when last year the banking acts in both countries were changed to require the prudential supervisors in each country to take into account financial stability in the other country. This change sends a clear message that the politicians recognise that there is a common interest, and creates a more productive climate in which to have trans-Tasman discussions.

More generally, as Stefan Ingves suggests, the questions of burden sharing and control are probably only ever going to be answered in a crisis. In a sense that seems unsatisfactory. Ideally, one would have agreed beforehand what was going to happen. But reaching such an agreement is difficult indeed!

## 2.5 Household balance sheets

The final theme that I would like to touch on is the significant changes in household balance sheets over the past decade or so. These changes are covered extensively in the papers by Christopher Kent *et al*, Chris Ryan and Chris Thompson, and Karen Dynan and Don Kohn. Our discussions focused on two broad issues: why have these changes occurred and what implications do they have for overall risk.

On the first of these issues there is broad agreement. Demographic factors and financial innovation are both very important, as are a large decline in unemployment rates and greater macroeconomic stability. The one area where opinions appear to differ a little is the role of interest rates. In Australia, lower nominal interest rates are seen to have been a major factor in the increase in household debt. The same is true in a number of other English-speaking countries. In contrast, in the United States, the fall in nominal interest rates is assigned a less influential role. This reflects the fact that the big increase in household debt took place somewhat after the decline in interest rates.

On what these changes mean for risk, I sensed less confidence that we knew the answers. One view was that the process of balance sheet adjustment by the household sector seen over the past decade still had some way to run, and did not pose increased risks to the stability of economy. An alternative view was that, in at least some countries, house prices are overvalued and that households have borrowed too much, with the result that the macroeconomic risks had increased.

Notwithstanding these different views, there does appear to be a consensus around at least four issues:

- that financial liberalisation has increased the ability of households to smooth consumption, and that this was a positive development;
- that the increased macroeconomic stability of the past decade or so meant that a given level of debt (relative to income) is less risky than it was previously;
- that the increased size and complexity of balance sheets means that a given change in asset prices and interest rates is likely to have a larger effect on household consumption than was the case previously; and
- that if the political consensus that has allowed the changes of the past decade to occur is to be sustained, more needs to be done to educate households on how to manage their larger and more complex balance sheets. Consideration should also be given to whether more tools can be developed to allow households to manage the risks inherent in these balance sheets.

## 3. General Discussion

The discussion in the final session centred on financial crises, the mispricing of risk and the policy responses available to prudential regulators and central banks. On the topic of financial crises, one participant suggested that it is impossible to have a liquidity crisis without there also being some concerns about the solvency of some institutions. Similarly, panics rarely take place unless there are fundamental problems within a market. Stepping back from the current episode, the participant argued that financial crises have always been around and it is not clear that they have become more frequent over time; consequently, introducing speed limits to the financial system may be counterproductive, especially if their main effect is to dampen financial innovation. Another participant responded that as long as speed limits lean only against cyclical imbalances, innovation should be unaffected. Avinash agreed, saying that speed limits should be aimed at reducing the procyclicality of risk-taking, not bursting bubbles. Also, he was somewhat surprised that financial systems were not more stable given substantial efforts to improve risk management frameworks and the considerable costs associated with regulation.

This led to a discussion of the reasons for the periodic mispricing of risk. One view was that the owners and managers of banks had not identified the right time to pare back their risk-taking because they were unable to see systemic risks increasing or turning points in the business cycle. This in turn meant that they often took on greater risks and/or were tempted to reduce expenditures in their risk control areas.

Some participants warned against policy-makers over-reacting to periods of financial volatility. They were particularly worried that large injections of liquidity by central banks could exacerbate procyclical risk-taking and make it more likely that a large financial crisis occurs in the future. In contrast, others argued that as long as central banks were careful not to be seen to be bailing out insolvent financial

institutions, providing liquidity support was one of their most important functions. Indeed, the failure to provide liquidity can itself lead to solvency problems if institutions are forced to sell their assets at heavily discounted prices.

There was some discussion of how policy-makers could help households to manage the greater financial risks that they had taken onto their balance sheets in recent years. One participant thought that regulators needed to provide more information to unsophisticated households. One example of this would be mandating the inclusion of projections of retirement income at age 65 with every defined contribution retirement plan statement. While most participants thought that such information, as well as improved financial education, could be beneficial to households, few thought that it would have a major effect on excessive risk-taking.

Securitisation also got an airing with one participant wondering whether central banks in Asia should encourage the originate-and-distribute model given concerns that securitisation has grown rapidly in some countries mainly because of regulatory arbitrage. Although Avinash suggested that securitisation was a prime example of an innovation that improved efficiency but undermined stability, other participants thought that, on balance, securitisation had enhanced welfare.