Paul Tucker: The debate on financial system resilience – macroprudential instruments

Speech by Mr Paul Tucker, Deputy Governor for Financial Stability at the Bank of England, at Barclays Annual Lecture, London, 22 October 2009.

*   *   *

What stage have we reached in the current financial and economic crisis?

The stage where the most hideous macroeconomic nightmare – a second Great Depression revisited – is now probably remote but where the outlook remains <u>highly</u> uncertain by any normal standard.

Where the banking system is recovering, but where some big UK (and overseas) banks have a lot left to fix. And where there has been real progress with many policy initiatives to make the international financial system more resilient in future, but where perhaps some of the biggest issues remain unresolved, even incompletely articulated.

After some scene setting, I will address one of those issues this evening: whether there might be macroprudential instruments that could lean against and preserve banking system resilience in the face of credit boom and bust. I will also provide an update on international plans for banks to produce recovery and resolution plans, known here as Living Wills.

The macrobackdrop and the credit system

At the beginning of this year,[1] I thought it would take until the autumn at least to tell whether the economy was going to lurch downwards into a spiral of falling prices, rising real debt burdens, generally enfeebled banks and falling output. While absolutely nothing can be definitively ruled out, that nightmare now seems unlikely. I shall weigh that in my own policy considerations, as for me the size of the massive monetary stimulus has <u>partly</u> been designed to insure against that catastrophe risk. So a key question over the coming period will be whether or not conditions are developing where some of that insurance could be withdrawn, consistent with leaving policy highly stimulative.[2] But the economy has in actual fact been very weak, with output falling and unemployment rising. The policy debate in the months ahead therefore will turn, as more usually, on the broad outlook for the risks around inflation over the medium term. That will depend on the data and, in particular, whether the data and surveys about real activity and demand come more closely into line, here and overseas. One of the biggest questions is whether, given the policy stimulus, recovery will be anaemic or whether we can attain the above-trend growth needed to absorb the slack in the economy necessary to ameliorate downward pressures on inflation. This will be at the heart of the quarterly forecast round on which the MPC is just embarking. And it could hardly matter more. Anaemic demand growth would lead to inflation undershooting the target for a period. And it would be likely to see firms continuing to shed labour, scrapping capital and delaying new investment, adding to the hardships the crisis has already brought. But I fear, however, that we may not be much clearer about the general trends in demand until at least late spring/early summer next year. There are major uncertainties about global demand and about domestic saving given the need for many households to strengthen their balance

---

[1] See Tucker PMWT (2009c), "The State of the Markets: Four Issues", at the Association of British Insurers Biennial Conference, London.

[2] For my thoughts on the idea of 'insurance' or 'precautionary' monetary policy settings, see Tucker PMWT (2006b), "Reflections on Operating Inflation Targeting", a speech at the Graduate School of Business, University of Chicago, May 2006, (pp. 10-12).

sheets over time. And, in particular, I doubt it will be clear before then whether or not the financial system is sufficiently recovered to support what may well prove to be a more credit-intensive phase of cyclical recovery.

The continuing uncertainties about credit supply underline just how much an effectively functioning financial system matters to the real economy. That much has been demonstrated beyond doubt by the massive measures taken here and elsewhere to prop the system up when the vortex beckoned.

Those measures have rightly drawn attention to what for too long was a neglected issue: Too Big To Fail – or, as we have also discovered, Too Interconnected, Too Complex to be allowed to fail in the way of an ordinary business. Like all truly big policy questions, this is a partly social question. It just cannot be acceptable that the downside from excessive risk across the financial system as a whole falls to the general taxpayer, to households and firms throughout the economy, if the upside is enjoyed by a narrower group of shareholders and managers. This is not just an issue of economic efficiency – of the allocation of resources – and of leaning against the risk of even bigger crises down the road, but also of social justice. That is why the debate has attracted so much interest. But I hope I can persuade you that the Too Big To Fail problem matters to bankers too. Because the Lehman case demonstrates that in a democracy, political constraints are uncertain and so even Too Big To Fail firms can sometimes be allowed to fail. Banks need a system in which they are better protected against mismanagement by their peers.

The debate calls for technocratic solutions to be laid out, but choice amongst those solutions should be understood and accepted by society at large. And the solution needs to be an international one. It is therefore good news that the G20 has commissioned work from the Financial Stability Board on the Too Big To Fail issue.

So the stakes are high. By the lights of our successors, we are bound to get it wrong, but can we get to the right ballpark?

Reforms to the "how" approach to the banking system oversight

The Governor of the Bank said earlier this week that we face a choice between an overhaul of the regulatory regime and directly altering the structure of the banking system. As earlier policymakers would have put it, this is a choice between, on the one hand, regulating what banks and other financial firms can do and, on the other hand, leaving open the scope of what they may do but regulating and supervising how they do it.

Since the thoughts on macroprudential instruments I shall go on to outline this evening are based on something like the existing structure of the banking system persisting, I shall briefly recap what I have said in a series of speeches earlier this year about the current reform agenda.[3]

The three necessary planks are re-regulation and a return to supervision; for the first time, agreeing effective resolution plans with banks and any other key firms; and, I would hope, a clear Capital of Last Resort regime designed to avoid perverse incentives.

[3] See "Remarks by Paul Tucker", panel session at The FSA's Turner Review Conference, 27 March 2009, "The Repertoire of Official Sector Interventions in the Financial System: Last Resort Lending, Market-Making, and Capital", Tokyo, 28 May 2009, and "Regimes for Handling Bank Failures: Redrawing the Banking Social Contract", at the British Bankers' Association Annual International Banking Conference: Restoring Confidence – Moving Forward, 30 June 2009. Traditionally, in exchange for being allowed to profit from taking risks inherent in providing liquidity, or monetary and credit services to the economy, banks have been subject to: prudential regulation; given access to liquidity insurance at the central bank; and required to finance industry-wide insurance schemes. Those have been the key elements of the social contract for banking. This series of speeches explored in more detail how those components of the social contract need to be redesigned.

On regulation, as Adair Turner has said, it is clear that firms need to hold more capital; and, as the Governor emphasised earlier this week, that that capital needs to be proper, loss-absorbing capital. It is equally clear that banks need to hold a portfolio of high-quality liquidity; that there should be no compromise about what counts as such liquidity; and that any banks thinking a decent treasury policy involves holding the bonds of other banks are way off-beam. That much has pretty well been agreed by international policymakers. The numbers remain to be set.

Just as important is the necessity of reviving supervision. By that, I do not mean checking compliance with rules after the fact, punishing breaches; punishing offenders does not bring back to life a bank or the customer businesses that have collapsed with it. I mean forward-looking judgments about the prudence of a firm's management and the resilience of its business. The FSA under Hector Sants have been saying much the same thing, and it was what an earlier generation focused on most. It involves supervisors making judgments; and, no doubt, occasionally judgments that individual banks find unwelcome. They need to cover competence. But also the adequacy of liquidity portfolios and the reasonableness of asset valuations; over the decades too many banks around the world have failed after they reporting apparently healthy ratios. Not a new lesson. But a vital issue is whether we are ready, today, collectively to back an approach based on judgments rather than on enforcing a book of detailed rules? If we are to tolerate supervisors where necessary substituting their judgment for that of managers and boards, then commentators, appeal tribunals and even parliamentarians will need to give supervisors the benefit of the doubt occasionally. Of course, such judgments need to be grounded and reasoned.

But we need to go further than this. Today, there is a realisation that it is not enough to look solely at individual firms atomistically. The resilience of the system in the face of seriously adverse disturbances – whether from the real economy or from within the financial system – depends heavily on common exposures and interconnectedness. In a way, this is another re-remembering. I am fond of quoting the following from a speech by George Blunden, a former Deputy Governor and the first chairman of the Basel Committee in the mid-1970s, gave over twenty years ago:

> "Supervisory standards are set with an eye to protecting [banks] from problems which could be created by wider, systemic developments. A bank may consider a course of action it wishes to take to be acceptable – as it may well be in a limited context. But the same course might, if widely copied by other banks, have unfortunate effects on the banking system as a whole. It is part of the supervisors' job to take that wider, systemic view and sometimes to curb practices which even prudent banks might, if left to themselves, regard as safe."[4]

A number of things flow from this core insight.

First, the central objective of prudential supervision is systemic stability. That is underlined now that the UK has moved to a system of deposit insurance where 100% of retail deposits up to £50,000 are protected. It is that which delivers consumer protection. Supervision affects the incidence of calls on the insurance fund. And since such calls are met from levies on the industry, that means supervision is in the business of containing such calls to systemically manageable amounts.

Second, a systemic – or macroprudential – orientation is what lies behind the thought of "systemic" add ons to capital and liquidity requirements for so-called "systemically significant" banks. Personally, I do not much like the notion of a list of "systemically important firms" because, as a previous generation of policymakers taught us, what proves to be systemic

[4] Blunden G, "Supervision and Central Banking", Bank of England Quarterly Bulletin, August 1987.

depends so very heavily on the circumstances. For example, it judged it safe to let Barings fail because the causes were clearly idiosyncratic and, just as important, the financial waters were calm. But essentially the same group of senior officials judged that it would not have been safe, in the circumstances of the time, to leave unaddressed the distress amongst fringe banks in the Secondary Banking Crisis of the mid-1970s, or amongst small banks in the crisis of the early 1990s. In both cases, actions were taken to stop the problems spreading to larger banks. But I do agree, of course, that banks are woven into the fabric of the financial system in potentially dangerous ways should carry more capital and liquidity than otherwise. That amounts to overturning a consensus that, assessed on an atomistic basis, greater diversification in a bank's risks is a sufficient reason for lower regulatory requirements. The FSA published some thoughts on this area earlier today.

Third – and this is a major departure from the past – we need a regime that recognises that inevitably regulation and supervision is flawed and, occasionally, will prove seriously wanting. However good a country's supervision, banks and other firms will fail. And they will fail in circumstances that, at least with – and possibly without – hindsight, could have been prevented. So it has been a mistake, over recent decades and in a number of countries, to claim to have a regulatory framework that is not premised on zero failures when we lacked a resolution regime that could cope with failures of even quite simple banks. In the UK, this was cruelly exposed in August 2007 when Northern Rock failed, denting confidence in UK mortgage banks generally.

That is the backdrop to the suggestion, stressed by the Governor earlier this week, that the market should explore whether banks can raise contingent capital from private sector investors. Beyond that, we need an effective resolution regime.

The UK does now have a decent resolution regime for small and medium-sized banks, which we used directly for the Dunfermline Building Society and indirectly in getting a few cases satisfactorily worked through. More important for today, it is the origin of the Bank pushing the "Living Wills" idea, which dovetailed with international conclusions about the horrendous problems of managing cross-border crises. The G20 heads of government have made it clear that something must be done about this. It is being pursued by the Financial Stability Board, a grouping of regulators, central bankers and finance ministry officials drawn from the G20 countries and a few other key centres.

Speaking as chair of the Financial Stability Board's working group on the resolution of cross-border firms, I can update you on the work already in train. Basically for the top roughly 25 banks and dealers, the authorities will work with them over the next 6-9 months to produce recovery and resolution plans. The effort will build on the existing supervisory colleges, but typically at a more senior level, and involving resolution authorities and central banks as well as line supervisors. After official level exchanges, there will be engagement with those firms, also at a senior level (say group CFO). The desired outputs will cover two things. First, recovery plans for "de-risking" a group where it can and should be maintained as a going concern. Second, a resolution plan when a firm needs to be wound down and put to rest, but with essential economic functions maintained somehow. The FSA has explained their contribution to the exercise.

No one should think that this will be easy; or that anyone in the official sector is naïve about that. It will, in fact, be formidably difficult. The process is, for that very reason, designed to flush out the issues, so that they can be properly debated and reviewed. There will quite probably be hard questions about the organisation of some banks; about which services needed to be maintained; about conflicts between the insolvency laws and special resolution regimes of different countries; about how losses can in the future credibly be made to fall on wholesale creditors; and, maybe, about the issues confronting burden sharing amongst national authorities if, notwithstanding these efforts, fiscal support nevertheless proves unavoidable when an internationally active bank fails in the future. Over time, this could lead to something of a revolution in the supervision of banks – because of the inducement to design regulatory arrangements to cater for circumstances in which supervision had failed to avert distress.

Imagine that despite all the obstacles, we make terrific progress with recovery and resolution plans over the next few years. To be clear, it is not that we can promise that yet: the work of the regulators: internationally has just begun. Rather, the point is that even that would not be enough. The community having finally recognised that we cannot rely wholly on regulation and supervision, we must not now make the analogous mistake of thinking that we can rely on resolution plans.

However good, those de-risking and wind-down plans will sometimes prove flawed. That is why for some months I have been arguing for the need to articulate a framework for Capital of Last Resort provision. We must not again find ourselves in a position where the authorities in different countries are developing as they go along how capital support should be provided: what triggers it, its terms, and who pays. I have aired the possibility of eventual losses falling on the surviving banking system, as a way of avoiding burdening the general taxpayer and as an incentive for firms to recognise and act upon their interest in the health of the system as a whole. But the more important point is the need to have a plan. And of course the fiscal support comes after drawings in any private sector provision of contingent capital.

Banking and the credit system: might there be macroprudential instruments?

At this point, I should issue another caution: that however all those issues are resolved, the banking-structure debate is resolved, I doubt they could prove sufficient to rule out bouts of instability, even crises, in the future. That is because I am doubtful that the tendency to excess can be curbed solely by addressing the circumstances of individual firms. Booms are spurred by plausible illusions and collective-action problems.

The current crisis has, in my view, been at root a crisis of liquidity – of an over abundance of liquidity in the upswing, succeeded by a drying up of liquidity during the crash.

Usually, material rises in asset prices are initially triggered by reasonable perceptions of a favourable shift in fundamentals. In the latest episode, that plausibly included improvements in monetary policy regimes, in the flexibility of the real economy, in the outlook for global costs, and in enriched instruments for hedging and dispersing risks. But it is very hard for anyone to gauge the extent of the warranted revaluation of asset prices. If investors and shareholders extrapolate forward *ex post* windfall gains into forward-looking *ex ante* required returns, funds and banks may be incentivised to increase risk in order to deliver.

In an environment of rising asset prices, continuing strong investor demand and high volumes in primary and secondary markets, liquidity is typically abundant. Liquidity premia fall, adding to the upward pressure on asset values. That liquidity may not in fact be resilient, but it can easily look like it to market participants. And with the ability to fund and to manage risk in the markets looking straightforward, financial firms feel they can relax the supply of credit – to real economy borrowers and to each other.

When the music stops, almost whatever the trigger, four problems arise – at least. First, some borrowers – households, firms and financial intermediaries – prove to be over indebted. Second, it can be hard to tell who has fundamental problems and who does not: the so-called Lemons Problem.[5] Third, some of the assumptions on which financial activity has been predicated turn out to be (or are seen as being) invalidated; eg, in the current

5 Ingves S, “A Cure for Crises: Confidence, Confidence and Trust”, a speech at the Eurofi Forum, Gottenburg, September 2009. Akerlof, George A, 1970 “The market for ‘Lemons’ Quality Uncertainty and the Market Mechanism”, The Quarterly Journal of Economics, MIT Press, vol 84 (3), pp 488-500, August.

crisis, the reliability of ratings of ABS. Fourth, the demand for liquidity rises, and its supply falls back. Markets become less liquid. Rising liquidity premia and forced sales depress asset values. Credit supply is reined in. A vicious circle is threatened by the excess leverage and liquidity mismatch that have developed in the financial system during the upswing.

During that upswing, important contributory factors will typically have included illusions about risk-adjusted returns; underestimating the extent to which buoyant conditions are being driven by falling liquidity premia; and a sense that, if the bubble bursts, the central bank will somehow be able to contain the spillovers. This amounts to "risk illusion", which should probably be as much debated as "money illusion" is in monetary economics. Separately, there is a potent collective action problem in getting off the dance floor. Not a few senior market participants felt from at least 2006 that financial risk was underpriced, and that conditions in, for example, the leveraged loan market were silly. But they also had no conviction about when, or indeed whether for sure, the music had to stop, and so feared individually that stepping away from the dance "too early" would crystallise business risk, as the dance would simply go on without them and their franchise would be undermined as customers migrated to their competitors.

These seem pretty close to the circumstances that Federal Reserve Chairman William McChesney Martin had in mind, over 50 years ago, when he talked about Taking Away the Punchbowl just as the party gets going. An intervention of some kind is needed from someone outside the dance.

Some commentators argue that the intervention should come via monetary policy. That as well as steering the path of nominal demand in order to maintain low medium-term inflation expectations, monetary policy should seek to tame the credit cycle. As MPC colleagues have already argued publicly,[6] we are very doubtful about that. It is likely that much higher rates would have been needed in the UK to choke off the credit boom, with the likely effect of pushing the economy into quite a prolonged recession, with a persistent and substantial undershoot of our inflation target. The business cycle and the credit cycle were simply not closely aligned. That is not to say that monetary policy should not take into account risks to the inflation outlook that accumulate slowly and with great uncertainty about when and how they will crystallise. But it makes a compelling case that monetary policy is not sufficient on its own. There are essentially two objectives here.

So there is a missing set of instruments. And the big question is whether a set can be devised that stack up not only in theory but in practice; instruments that can be used in the real world.

Having first flagged 18 months or so ago that the Bank would work on this general area, earlier this year I set out four questions which the debate would need to address;[7] objectives,

---

6 See, Bean C. R "The Great Moderation, the Great Panic and the Great Contraction", Schumpeter Lecture at the Annual Congress of the European Economic Association, Barcelona, August 2009 and "Some Lessons for Monetary Policy from the Recent Financial Turmoil", remarks at Conference on Globalisation, Inflation and Monetary Policy, Istanbul, November 2008. Also Dale S, "Inflation Targeting: Learning the Lessons from the Financial Crisis", remarks at the Society of Business Economists' Annual Conference, London, June 2009.

7 My remarks at the Institutional Money Market Funds Association Annual Dinner in London on 2 April 2008 included the following on macroprudential policy: "Looking ahead further, the big question will be whether the authorities can tame the credit cycle without sacrificing the incentives to enterprise that are so important in a dynamic economy. The debate about the micro regulation of banks will need to take account of whether or not we can deliver that macroprudential objective. For too long, the debate has got sidetracked. Into whether we can rely on monetary policy "mopping up" after bubbles burst. Or into whether monetary policy could be used to control asset prices as well as doing its orthodox job of steering nominal trends in the economy, which I should say can include taking account of prospective risks of inflation volatility over the medium term. Ideas circulating already include minimum margin requirements or capital ratios that vary not only across instruments or firms but also through time as credit conditions change. We need calmly to explore whether there are also other possibilities. But let me make this absolutely clear: there are formidable obstacles to finding a solution. In the monetary sphere, a regime of floating exchange rates allows individual countries to

instruments, whether the instruments would be operated under a rule or discretionary judgments, and whether it was feasible for one country to attempt to employ such instruments in a world of freely flowing capital. I will sketch our preliminary views on those questions. The Bank will publish a Discussion Paper, going deeper than I can today, over the next few weeks. We do not have all the answers and I must stress that we are not in advocacy mode, but we have reached the point where we should like to try to inject some further thoughts into the debate.

(a) Objectives

A few generations ago, Federal Reserve Board Chairman Martin (of the Punchbowl) described how the Fed approached the task it had been given by Congress in 1934, in the wake of the Great Crash, to set minimum margin requirements for loans to purchase security:

> "The task of the Board, as I see it, is to formulate regulations with two principal objectives. One is to permit adequate access to credit facilities for securities markets to perform the basic economic functions. The other is to prevent the use of stock market credit from becoming excessive. The latter helps to minimise the danger of pyramiding credit in a rising market and also reduces the danger of forced sales of securities from undermargined accounts in a falling market."[8]

Today's task is somewhat broader, focused not just on securities markets, but on the stability of the banking system as a whole and on maintaining, through otherwise severe economic disturbances, the essential services banks provide to the real economy. But it is instructive that Chairman Martin focused on the risks of "pyramiding credit".

In big picture terms, candidate objectives include quelling asset price bubbles; credit growth; and strengthening the resilience of the banking system during credit booms. We are minded to favour the third – *dynamic resilience of the banking system*.

Why not asset price bubbles? Essentially because we are doubtful that financial stability is liable to be threatened by exuberance in asset markets unaccompanied by excess credit growth and indebtedness. It is the impact of falling asset prices on an <u>over-levered and liquidity-stretched</u> financial system that imperils the provision of essential financial services. A necessary condition for a pervasive financial system problem is weakness amongst financial firms. The late-90s tech bubble is arguably instructive in this respect. The collapse of dot.com shares obviously caused a lot of volatility, but it was the wave of defaults on telecom debt that threatened banking stability.[9]

Why not then cast the objective solely in terms of credit growth? Essentially for three reasons. First, a macroprudential instrument will alter the terms on which credit is supplied by the banking sector, but the resulting growth of credit will depend on <u>demand</u> conditions, which lie beyond the direct reach of the macroprudential instruments I shall go on to discuss.

---

pursue their own domestic monetary objectives. But in a world in which capital flows freely, local attempts to control the pace of credit creation, particularly within the financial system, may not work. All of that will need to be thought through. But first we need to concentrate on the immediate challenges". The four questions are sketched out in more detail on pages 7-9 of my remarks at the Turner Review Conference.

8 Chairman Martin's testimony before the US Senate Committee on Banking and Currency, 84th Congress, 1955, discussed by Paul H Kupiec of the FRB, April 1997, "Margin Requirements, Volatility, and Market Integrity", quoting from Moore, Thomas (1966) "Stock Market Margin Requirements", Journal of Political Economy, vol 74, No 2, pp 158-167.

9 The Bank of England's June 2000 Financial Stability Report highlighted the risks to the financial sector of the heavy debts taken on by telecoms firms to finance purchases of licences.

Second, and again anticipating part of my later remarks, the residents of industrialised countries are free to borrow from abroad, so total credit growth may lie beyond the control of national authorities. There is no good reason to turn our backs on free flowing capital. Third, a "dynamic resilience" objective would not leave credit conditions untouched.

"Dynamic resilience of the domestic banking sector" should, by contrast, be something national authorities <u>can</u> influence. A required increase in banks' capital resources or liquidity during a period of exuberance would be likely to act, in degree, as a circuit-breaker on domestic credit supply. So there would be an effect on credit conditions, and so plausibly some indirect taming of the credit cycle during the upswing. And, crucially, during the subsequent downswing, the macro-prudential dial could be relaxed where necessary to lean against the risks of a perverse downward spiral. A broadly symmetric approach would be important. Its feasibility would depend on there being appropriate <u>minimum</u> capital requirements in the first place for normal conditions. That is part of the Basel agenda.

So, on this view, the mandate or mission could be expressed in terms of ameliorating the impairment of banking system resilience that typically occurs during credit booms. It would probably be hard to achieve that without influencing domestic credit-supply conditions, in booth the boom and contraction phases.

(b) Possible instruments: capital requirements, risk weights and haircuts

There are two dimensions to pursuing this objective. One is making the system more resilient in the face of severe shocks by acting on its inter-connectedness. The other is seeking to adjust the capital and liquidity resources of the system during the up and downswings of the credit cycle; that is to say, over time. Internally, we refer to these as the "cross-sectional" and "time-series" dimensions. I am going to focus mainly on the latter this evening.

Work is already underway in Basel to reduce the <u>pro</u>-cyclical properties of the Second Capital Accord and to encourage dynamic provisioning against expected credit losses. On the face of it, that seems unlikely to be enough to deliver a "dynamic resilience" objective in the terms I have described, as it would not directly address stress scenarios. That is a point of departure for the wider debate on extra instruments.

Much of the existing public commentary starts from an assumption that any such instrument should be variation in required minimum capital ratios over the course of the credit cycle.

We are currently doubtful about that. But we agree that macroprudential instruments directed broadly at taming the credit cycle will be functions of – dare I say, derivatives of – <u>micro</u> prudential requirements on capital and liquidity. That is because, as I have discussed, the central vulnerabilities in the financial system, and the mechanisms through which it can amplify the credit and business cycles, are leverage (inadequate capital) and maturity mismatch (inadequate liquidity). Today, I shall focus almost entirely on the macroprudential deployment of capital requirements. That is largely because the microprudential toolkit for liquidity regulation is still in its infancy and subject to international discussion.

So why are we doubtful about simply varying headline capital requirements through the credit cycle? Imagine that the authorities judge that a boom in lending to (or related to) a particular sector of the economy had become overly exuberant. To make it topical, assume that this was lending to the shadow banking system (say conduits, SIVs etc). The authority raises the minimum capital ratio by Xpp. The affected banks could respond in a number of very different ways. This could include the perverse reaction of cutting lending to unexuberant parts of the real economy, while continuing to lend on overly relaxed terms to, in this example, the exuberant shadow banking system. That kind of thing really could happen if such lending seemed to offer terrific returns.

What lies behind this problem is, of course, that quite often a credit boom is at least initially concentrated in one or a few sectors of the economy. That being so, the appropriate instrument needs to be able to work with a degree of granularity. Two options are changing capital-ratio risk weights on exposures to particular classes of borrower; and, second, varying minimum collateral haircuts on secured lending. Since, by definition, the latter can apply only to secured lending, the Bank has so far been giving more thought to operating on risk weights.

Using risk weights as the instrument might also enable the authorities to address incipient problems emerging from credit exposures held in banks' Trading Books and off-balance sheet exposures as well as in standard loan books. For example, in the upswing of the latest credit cycle, it would have been helpful to withdraw the 0% weight on 364-day lines of credit, which fuelled the shadow-banking system of conduits etc; and to have raised the weights on super-senior credit exposures held in marked-to-market trading portfolios. (By the way, the appropriate micro supervisory response would have been to ensure that the individual LCFIs were in fact managing those holdings as trading positions. It seems that some were not.)

Of course, none of this would be straightforward. There would be a lot to be learned about the transmission mechanism. And using risk weights as the instrument would require judgments on the relative as well as absolute risks of different types of exposure. I must stress, therefore, that we are outlining these thoughts precisely so that they can be explored and challenged. In particular, we should think about whether a macroprudential toolkit might sensibly include variations in minimum haircuts as well as in risk weights. An eclectic approach should not be ruled out.

(c) Rules or discretion?

As I have said on a previous occasion, we are doubtful that macroprudential instruments could be operated by a rule. To steer the banking system towards increasing its resilience to incipient problems in a stretched sector, a whole series of judgments would have to be made. Whether the rate of credit growth seemed excessive; whether terms were overly lax; or whether the "bubble bursting" would materially damage banks. That would call for assessments of the levels of indebtedness, of banking system exposures, of the broad probabilities of those exposures turning sour, and of whether herding in the market might be driving the system into an ever more precarious position. Rapid growth in debt does not of itself signify over indebtedness; and default does not necessarily materially impair lenders' resilience. One possible way of thinking about this is that the authorities could be guided by top-down stress tests of the effects on the banking system of various adverse scenarios potentially affecting different groups of borrowers and exposures. In very broad terms, this would be akin to systematically applying Pillar II-type judgments under the Basel regime to banks in general. It would share with the Pillar II element of micro-prudential regulation a focus on circumstances that warranted a capital charge different from the Pillar 1 minimum. But it would differ in a number of important respects. First, the instrument would be applied to all banks in the jurisdiction. Individual banks would be affected differently according to the scale of their holding of the exposures for which a risk-weight had been varied, rather than on the basis of micro supervisory judgments about each bank's particular circumstances. Second, for that reason, the calibration would depend on the position of the system as a whole, including its weakest systemically significant links in the context at the time, rather than the idiosyncratic circumstances of each firm. Third, whereas in the micro-prudential setting Pillar II always applies an add-on to the Pillar I minimum, a macroprudential authority might reduce risk weights during the downswing in the credit cycle. Indeed, it would be important that the instruments could be used symmetrically. But the risk weights that might be reduced would not necessarily be those that had been increased during the boom phase of the credit cycle. That might well be inappropriate if those sectors were becoming distressed. This would, of course, call for quite difficult practical judgments. Fourth, the operation of the instrument would need macroeconomic as well as financial system inputs. Thus, to the extent that top-down stress tests were employed as one input to the calibration, these could not be a standard battery of mechanical scenarios. They would need to be tailored to the risks around the outlook for the economy and the financial system. That would also entail judgments being made. Taking all that together, it seems to us implausible that the instrument could be applied according to a rule. Instead, policymakers would need to meet periodically to make difficult judgments faced with enormous uncertainty.

I should touch on, although I do not have time to elaborate tonight, on three consequences of such an approach. First, this would be a data intensive endeavour. The macroprudential authority would probably need information on sectors to which the banking system was exposed going beyond anything that has been collected to date, particularly in the non-bank financial sector. Whether that renders this kind of approach overly ambitious is part of what we should all debate.

Second, in a regime involving judgments, the macroprudential authorities would need to explain publicly the basis of their decisions and how they related to their mandate and specified objectives. Moreover, as in the monetary policy sphere, transparency might enhance the effectiveness of macroprudential instruments. That is because over time banks (and other lenders) would develop an appreciation of the circumstances in which the macroprudential toolkit might be deployed, requiring them to hold more capital or liquidity against a build-up of exposures.

Third, the macroprudential authorities would need a deep and broad understanding of the financial system. While the big picture story of the current crisis is clear *ex post*, recognising it in advance would have required, amongst other things, looking under the bonnet of the structured finance industry and elsewhere to see the obscure way in which leverage and liquidity mismatches were accumulating. That would have helped an understanding of the expansion of bank balance sheets.[10]

(d) Leakage

From the outset of this debate, I have stressed the hazards in trying to steer credit growth in a world in which capital can flow freely across borders. Think of a case where the domestic authorities increased the risk weight on mortgage lending. The measure would apply only to banks headquartered here or operating out of a subsidiary. It would not apply to branches of foreign-headquartered banks, still less to pure cross border activity. But it is easy to imagine that, rather than borrowing from UK-domiciled banks, mortgage brokers could arrange for households to borrow from a lender based overseas, or at least with the loan booked overseas. In terms of the accumulation of debt in the sector concerned – in this hypothetical case, housing – there might, after a time, be little or no effect. That would obviously not be great for the risk of default by the borrowing sector concerned. But UK-based banks would have been required to build their defences. That might mean that, other things being equal, if and when the borrowing sector got into difficulty, UK-based banks would be less likely to collapse under the strain of losses. If so, the damage to financial stability would be reduced, and the eventual economic costs might plausibly be lower than otherwise; especially if those UK banks were able to take up some of the slack created by withdrawal of credit supply by foreign banks to sound UK borrowers.

It might, though, just be possible to go further. In the first place, a domestic authority increasing capital or liquidity requirements due to on lending by its banks to a particular sector could act as a signal to the home authorities of other, overseas banks. Plainly, it would be important to share analysis with international peers, even if things went no further than that. Transparency to the market would aid that dialogue. But it might be worth exploring whether there could feasibly be some kind of more or less co-ordinated or co-operative macroprudential response in some instances. This would entail risk weights being varied on

[10] For a description of how banks used structured finance to try and transfer risk see, Tucker PMWT (2007a), “A Perspective on Recent Monetary and Financial System Developments”, a speech at the Merrill Lynch Conference for hedge funds, April 2007, (pp.8-10).

the basis of both the economy of the borrowers and conditions in the home financial system of the lenders, with the aim of at least avoiding conflicting policy responses. As such, it would be a novel overlay on the Basel Concordat agreed thirty years ago for the division of labour between home and host supervisors. This might usefully form part of the international discussion on possible macroprudential instruments.

(e) The cross-sectional dimension: interconnectedness

Finally, to round up, just a few thoughts on the other dimension to the macroprudential challenge: the "cross-sectional" issue of interconnectedness. I have already applauded the debate in Basel, and at the FSA, on developing a regime for supplementary capital requirements for firms that are especially interwoven into the system. I would add only two points this evening.

First, just as top-down stress testing could be a useful input to utilising the "time series" instruments I have been outlining, so the "cross-sectional" add-ons would need to draw upon judgments about how distress at a particular firm would ripple through the system. Stress testing could be one useful part of that. But it would also require a deep knowledge of the plumbing of the financial system – the way payments, settlements and collateral transfers operate.

And so my second point is that the debate about how best to regulate the banking system must not distract policymakers or practitioners from improving the plumbing, the infrastructure of our markets. This crisis would have been unimaginably worse without effectively collateralised payment systems, many over-the-counter derivative contracts and central-counterparty clearing houses. Although progress in those areas proceed below the radar of many, we must renew our emphasis on effective financial market infrastructure.

Conclusions

The current crisis has reminded everyone that our primary interest in regulating the banking sector is the preservation of systemic stability and so of the vital services banks perform in our economy and financial markets.

There are two great lessons from the crisis. One is that important banks can fail and so we would be wise to have robust resolution regimes and plans. The second is that the financial system is a system. One that contains complex and shifting inter-connections. And one that can generate pronounced credit cycles, which even if they initially affect only asset values, eventually can materially affect the real economy. This is why the macroprudential debate is so important. It has been a long time coming.[11]

This evening I have outlined some of the Bank's current thinking on where it might be feasible to develop a toolkit of useful macroprudential instruments. It is not a set of firm recommendations. An open discussion is needed before anyone can reach that point. But I hope it is a useful contribution. We plan to expand on it in a discussion paper over the next few weeks.

[11] The beginnings of the macroprudential debate can be traced back at least to Crockett, A (2000): "Marrying the micro- and macroprudential dimensions of financial stability", BIS Speeches, 21 September 2000.