BANK OF ENGLAND

Speech

The role of the leverage ratio and the need to monitor risks outside the regulated banking sector

Speech given by

Sir Jon Cunliffe, Deputy Governor Financial Stability, Member of the Monetary Policy Committee, Member of the Financial Policy Committee, Member of the Prudential Regulatory Authority Board

At the Financial Reporting Council annual conference, London

Thursday 17 July 2014

In early 2009, around the height of the financial crisis, the market valued the combined equity of the major UK banks at less than 2% of their total assets. In other words, the market thought these banks were, on average, over 50 times levered. Measured by their regulatory returns, average leverage was 'only' 30 times or so. And on a risk weighted basis, the banks had 6.7% common equity capital – well above the 2% minimum. Tier 1 capital ratios were almost 9%.

This was of course the time when fear in the market was at its peak. The message was crystal clear. When it mattered most, the market did not at all believe the published numbers for bank capital adequacy. And the market reacted accordingly bringing funding markets to a halt.

This episode tells us two things. The first is that financial reporting matters. It matters at all times. But it matters most in times of stress. As an illustration here, I can recall heated discussions between European leaders about mark to market rules and about the transfer of assets from banks' trading to their banking books in 2008 and 2009. I could never have imagined, pre-crisis, that Europe's Presidents and Prime Ministers could ever argue about such arcane issues. But arcane or otherwise, they were crucial to the survival of a number of systemic banks.

The second thing this episode shows us is that, when push came to shove, how little confidence investors had in the regulatory capital framework. In essence, markets discounted all types of capital except pure equity. And as they distrusted the risk-weighted numbers, they wrote down the value of the equity to reach the numbers I mentioned earlier.

And, in many cases, they were right to do so. Capital adequacy turned out to be an illusion.

I want to talk today about the action taken and the steps we still need to take to avoid a similar illusion in the future. How should we measure and set bank capital requirements? And in particular, the role the leverage ratio can play.

And I also want to talk a little about the non-bank financial sector. Because as we strengthen the capital and liquidity rules for banks, there is a danger that the risks migrate from banks into the non-bank sector. And here I want to touch upon another pre-crisis illusion - the liquidity illusion.

Reforming the capital framework

The market in 2008 and 2009 clearly did not believe either the numbers for bank capital or for bank assets. Capital was not just pure equity. Tier 1 capital also included so-called 'hybrid' capital instruments – debt that was supposed to convert to equity to absorb losses. However, the ability of these instruments to absorb losses proved to be illusory.

Moreover equity itself was distorted by factors such as the inclusion of deferred tax assets – tax credits that could only be realised when a profit was made and so of no use in a crisis. And banks were slow to recognise losses – leading capital ratios to be overstated.

And, as to banks' assets, the major banks were, by 2008, using their own models to assess the riskiness of much of their portfolios for regulatory capital purposes. From their origin in the late 1980s, the international capital adequacy standards – the Basel standards – had focussed on risk adjusted capital. This was based on the sensible principle that the level of a bank's capital should reflect the riskiness of its assets.

As the Basel standards developed, banks were increasingly, first for the trading book in 1996 and later, through the move to Basel 2 in 2008, for the banking book as well, able to use their own modelling to assess the riskiness of their assets. Again, there was logic in this. It replicated for regulatory purposes the way the banks themselves managed risks.

However, as the banking system became more and more levered, as banks' balance sheets grew and grew, the measured riskiness of banks' assets – measured in large part by their own models – declined.

In the ten years to 2007, the size of banks' balance sheets in the UK had doubled relative to the size of the economy.

But over the same 10 years, the average risk-weight for the assets of the major UK banks had fallen to almost 40% - down by around a fifth from its level a decade earlier.

As a result, the increase in banks' balance sheets was not matched by anything like a commensurate increase in capital.

When the crisis struck, not only did a significant portion of the assets turn out to be far riskier than estimated. Market confidence in the risk-weighted capital adequacy framework as a whole pretty much evaporated.

We have taken steps, through the new international capital standard, 'Basel 3', to address the main failings in the risk-weighted framework.

We have tightened up on the required quality of regulatory capital. The 'hybrid' debt instruments that proved not to be loss-absorbing no longer count as Tier 1 capital. Efforts have been made to ensure losses are recognised at an earlier point. Material deferred tax assets are now deducted from the regulatory definition of capital.

The minimum amount of common equity capital banks are now required to hold has been increased to 4.5% of their risk-weighted assets.

And we have put in capital buffers. It is often too late to take recovery action when a firm drops below minimum standards. And because firms approaching the minimum often have to deleverage sharply which can have a very adverse impact on the real economy.

So we have created incentives for firms to run with a substantial buffer of capital above the hard minimum. Where common equity capital is less than 7% of risk-weighted assets, firms now face restrictions on bonuses and dividends. For systemically important banks, the required buffers are higher still.

These buffers should give banks more room to use their capital to absorb losses rather than hitting the brakes on lending.

On the other side of the equation, some action has been taken to tighten up the calculation of firms' risk-weighted assets. And work is also underway to examine whether we can improve the 'standardised approach' to risk-weighting – an approach in which banks use a risk-weight prescribed by the regulators.

As a result, the amount of capital in the system has increased substantially. Globally, the large banks now hold some $500bn of additional equity capital. Major UK banks have raised their equity capital by £150bn. Their leverage has broadly halved.

On average, the Major UK banks are now running with an end-point Basel 3 common equity capital ratio of 10%. Roughly speaking, that is more than double the equivalent pre-crisis ratio.

However, while the risk-weighted approach has been through wholesale reform, it still depends on mathematical models – and for the largest firms, their own models to determine riskiness. So the risk-weighted approach is itself subject to what in the trade is called 'model risk'.

This may sound like some arcane technical curiosity. It is not. It is a fundamental weakness of the risk based approach.

Mathematical modelling is a hugely useful tool. Models are probably the best way we have of forecasting what will happen. But in the end, a model – as the Bank of England economic forecasters will tell you with a wry smile – is only a crude and simplified representation of the real world. Models have to be built and calibrated on past experience.

When events occur that have no clear historical precedent – such as large falls in house prices across US states – models based on past data will struggle to accurately predict what may follow.

In the early days of the crisis, an investment bank CFO is reported to have said, following hitherto unprecedented moves in market prices: 'We were seeing things that were 25 standard deviation moves, several days in a row'.

Well, a 25 standard deviation event would not be expected to occur more than once in the history of the universe let alone several days in a row – the lesson was that the models that the bank was using were simply wrong.

And even if it is possible to model credit risk for, say, a bank's mortgage book, it is much more difficult to model the complex and often obscure relationships between parts of the financial sector – the interconnectedness – that give rise to risk in periods of stress.

Moreover, allowing banks to use their own models to calculate the riskiness of their portfolio for regulatory capital requirements opens the door to the risk of gaming.

Deliberately or otherwise, banks opt for less conservative modelling assumptions that lead to less onerous capital requirements. Though the supervisory model review process provides some protection against this risk, in practice, it can be difficult to keep track of what can amount to, for a large international bank, thousands of internal risk models.

The underlying principle of the Basel 3 risk-weighted capital standards – that a bank's capital should take account of the riskiness of its assets – remains valid. But it is not enough. Concerns about the vulnerability of risk-weights to 'model risk' call for an alternative, simpler lens for measuring bank capital adequacy – one that is not reliant on large numbers of models.

This is the rationale behind the so-called 'leverage ratio' – a simple unweighted ratio of bank's equity to a measure of their total un-risk-weighted exposures.

By itself, of course, such a measure would mean banks' capital was insensitive to risk. For any given level of capital, it would encourage banks to load up on risky assets.

But alongside the risk-based approach, as an alternative way of measuring capital adequacy, it guards against model risk. This in turn makes the overall capital adequacy framework more robust.

The leverage ratio is often described as a ‘backstop’ to the ‘frontstop’ of the more complex risk-weighted approach. I have to say that I think this is an unhelpful description. The leverage ratio is not a ‘safety net’ that one hopes or assumes will never be used.

Rather, bank capital adequacy is subject to different types of risks. It needs to be seen through a variety of lenses. Measuring bank capital in relation to the riskiness of assets guards against banks not taking sufficient account of asset risk. Using a leverage ratio guards against the inescapable weaknesses in banks’ ability to model risk.

Whether the leverage ratio or the risk weighted capital ratio bites on any individual bank will depend on what are the greatest risks facing that bank.

Work on an international standard for a leverage ratio is well advanced, though a standard will not be set before 2019. The Chancellor of the Exchequer announced last November that the Bank of England’s Financial Policy Committee should review whether a leverage ratio should be introduced in the UK before 2019.

The Bank, accordingly, issued a consultation document last Friday on how a leverage ratio might work alongside the risk-weighted approach in the UK.

We have made a great deal of progress in reforming the capital adequacy framework for banks. We have also made very real progress on the liquidity framework for banks, though I do not propose to go into that today.

But as we have reinforced regulatory standards for the regulated banking sector, there is considerable concern that we have simply moved the risks beyond the regulatory perimeter. In short, that bank-like activities, carrying bank-like risks are taking place without bank-like regulation and supervision.

Many of these concerns find expression in the term 'shadow banking'.

I think 'shadow banking', like 'backstops' and 'frontstops', is an unhelpful and misleading description. To be clear, we want to see more diversity in the way credit is provided in the economy - more players in the banking sector and more non-bank market-based finance.

Because another lesson of the crisis for many countries was that the risks from a credit 'banking monoculture' could be very serious – when banks were badly damaged, it led to a credit crunch that left the economy without other forms of credit intermediation. I suspect one of the reasons the US recovered more quickly from the crisis was because it had greater diversity of credit channels in the economy.

It is for this reason that the Bank is working with the ECB and others to encourage the revival of a robust, simple and transparent securitisation market in Europe.

But – and this is an important 'but' – it is important that bank-like activity does not migrate outside of the regular banking system in an uncontrolled manner that presents equally important systemic risks.

The Financial Policy Committee of the Bank has the statutory responsibility to identify, assess, monitor and take action in relation to financial stability risk across the whole financial system, including the non-bank financial system. It has the power to make recommendations to the Treasury on what activities should be regulated, as well as more general powers in respect of information gathering.

It is not a trivial job. In the UK, the non-bank financial sector is almost as large as the banking system, at around £5 trillion excluding derivatives. Nearly all of this represents assets under management, and within that the investment fund sector accounts for around one third and hedge funds a further 10-15%.

Globally, the non-bank financial sector stands at more than US$70 trillion, roughly equivalent to global GDP.

Within that, assets managed by investment funds and on behalf of non-bank financial clients like insurance groups and pension funds broadly doubled over the decade to 2012 to more than US$60 trillion, approaching 90% of global GDP.

They are now equal to 70% of the commercial banking system. And management of these assets has become increasingly concentrated. Five firms now manage around US$13 trillion of assets, roughly one fifth of the total.

It is not surprising that this has drawn the attention of commentators and regulators worldwide.

There is nothing wrong with growing quickly. But when a part of the financial system grows quickly to 90% of global GDP and much of its management is highly concentrated, then I think it is right for the regulatory community to look hard at the systemic risks this might pose.

That is why the issue of systemic risks arising from investment and hedge funds and the firms that manage them are being looked at as part of the FSB's work on systemically important financial institutions. In January, the FSB published a consultation paper on its proposed methodology for identifying such firms in these sectors. Based on the consultation results, the FSB will report to the G20 Leaders Summit in Brisbane in November this year.

We need to recognise, of course, that investment funds face – and pose – very different risks to banks. They typically manage pools of assets on behalf of investors who bear the ultimate investment risk. They can operate with some leverage, but this is generally subject to restrictions.

Asset managers act as agents to such funds, and make investment decisions on behalf of end investors that are consistent with their objectives and agreed mandates.

However, despite their generally low-leverage, agency business model, investment funds can pose risks to financial stability. They often offer investors same or next-day redemptions, despite holding assets for which secondary market liquidity can be uncertain. In this way, like banks, they can face liquidity risks.

A concern from a financial stability standpoint is that heavy asset sales necessary in times of stress to meet investor redemptions could disrupt systemically important asset markets, particularly where a fund (or funds) has a concentrated market position.

There have, so far, been few historical examples of financial instability caused by funds experiencing distress. But we should be careful about drawing too much comfort from this. The scale of funds and the market environment are different now.

For example, funds' investments in emerging market assets and high-yield bonds have quadrupled over the past five years. It is unclear what volume of redemptions could be met quickly without causing disorder in these markets. A year ago, the so called 'taper tantrum' was a pointer to what could happen.

And such risks may have become greater due to changes in the market. Concerns have been raised by some in the industry that reforms to bank capital and liquidity regulation could, taken together, have potentially serious consequences for market liquidity.

The regulatory community takes such concerns seriously and is looking closely at them.

But we should not set as an objective a return to pre-crisis liquidity conditions. Liquidity risk premia were likely too low before the crisis because liquidity risk was under-priced. And market-makers were permitted to fund their inventory with dangerously high levels of leverage, funded at very short maturities and, needless to say, the risk-weights attached to this sort of activity were very low.

As a result, dealers were, it is true, able to carry high levels of inventory and to accommodate easily shifts in the demand for market-making. But they were also vulnerable to falls in asset prices and tightening in wholesale markets conditions. When faced with severe stress, they were forced to withdraw from market-making altogether.

In short, when conditions became really testing, market liquidity, like bank capital, proved to be an illusion.

With regulation tighter, it may well be harder for market-makers to absorb inventory when end investors wish to off-load assets; market liquidity may start to fall away at an earlier point. The risk of another complete failure of market liquidity should be much reduced. But market participants will not always be able to sell what they want, where they want and when they want.

Investors need to recognize this change in market structure and adjust accordingly.

In this respect it is perhaps worth observing that it is currently quite puzzling that, when market participants seem to be worried about market liquidity and the impact of regulation on market making, liquidity risk premia seem to be so compressed. It does raise questions over whether liquidity risks have been properly priced.

Central bankers are, of course, supposed to worry about new risks. But I would not want to leave you with the impression that nothing has improved in the financial stability world.

I do think the reforms already made to the capital adequacy and liquidity frameworks have improved markedly the robustness of the system.

A leverage ratio, if and when it is introduced in the UK alongside the risk-weighted approach, would in my view make the capital adequacy regime for the banking sector appreciably stronger by guarding against model risk.

And, as regards the non-bank financial sector, what some would classify as 'shadow banking' – I also think we are starting to see some positive momentum towards the development of diversified credit channels in the UK and the EU – though there is a great way still to go.

At the same time, the financial regulatory community is keeping a pretty close watch as to whether risks are migrating from the bank to non-bank sector and building up elsewhere.

The FPC recently made its first analysis and assessment of risks in the UK outside the regulated banking system.

That assessment was made difficult by generally incomplete data in this area, which we are starting to correct. But it concluded that, based on its current risk assessment and policy initiatives underway internationally – including through the FSB work on shadow banking that is coming to completion this year – it did not currently see a case for recommending changes to the UK regulatory framework.

I am afraid, for financial stability, that is as good as it gets. The financial sector evolves at a phenomenal speed. Risks can change and build very quickly. So the FPC will have to repeat its assessment of risks from the non-bank financial sector at least annually.

In this area, as in the banking sector, it has to keep risk under close and regular review. And it has to be prepared to act.

But that, of course, is the nature of preserving financial stability and preventing a reoccurrence of the illusions I described earlier.