BANK FOR INTERNATIONAL SETTLEMENTS

Financial regulation: cementing the gains of post-crisis reforms

Speech by Jaime Caruana

General Manager, Bank for International Settlements

CI Meeting of Central Bank Governors of the Centre for Latin American Monetary Studies (CEMLA)

Lisbon, 10 May 2016

1. Introduction

Over the past years, we have all witnessed a huge amount of work on revamping the prudential regulatory framework in order to improve the resilience of the financial system. In the banking sector, there have been both quantitative improvements, stemming from increased capital and liquidity requirements, and qualitative ones, due to the system-wide approach to regulation.

But it is not only banking. Significant work has been done in the insurance sector as well. Measures are also being taken to contain the financial stability implications of excessive leverage, and maturity and liquidity transformation outside the banking sector. In addition, the revamping of the regulatory framework has driven the shift of financial transactions to central counterparties (CCPs). To tackle the systemic implications of individual institutions and infrastructures, we are putting in place better resolution regimes and plans.

Nevertheless, seven years after the crisis, there seems to be a disconnect between this impressive amount of work and the sense of unease among financial market participants. In particular, banks still need to address markets' scepticism, which is evident in low price-to-book ratios. At around 1/2 on average, these are particularly low for euro area and Japanese banks. And they have been on a downward trend for many Latin American banks.

Market participants' unease can also be seen in the financial market strains at the beginning of this year and has several causes. One is the uneven fragility of a global economy that is burdened by piles of debt and lacks productivity growth. Another stems from remaining fragilities in the financial system. The credit cycles in some economies are maturing, and fundamentals are weakening.

This unease serves as a good reminder that financial stability is a broad issue and that regulation is only part of the solution – an important part, though. We should thus interpret the unease as a call to reflect on how to cement the gains of the post-crisis regulatory reform. There is already much effort in this direction. It relates to completing the reform, promoting consistent implementation, and monitoring the intended and unintended consequences of regulation.

With this as a background, my remarks will centre on three themes. The first is the need to complete the regulatory agenda in a timely and consistent fashion. In this context, I will focus on areas of prudential regulation in the banking sector, stressing the importance of striking the right balance in calibrating overall capital requirements and maintaining the risk sensitivity of the framework while upholding the principle of simplicity. The treatment of sovereign exposures provides a case in point.

Second, I advocate the adoption of a holistic view for assessing the effects of regulatory reforms. By holistic I mean taking into account the evolving nature of financial intermediation and the morphing of risks and leverage in the financial system. For instance, a holistic view allows us to see that post-crisis developments in market liquidity have been mostly consistent with intended consequences of the regulatory reform. It also helps us identify new challenges stemming from the increased importance of the asset management sector. More generally, a holistic view prepares us to fight the next war.

Third, I argue for proactive supervision taking a more prominent role in the prudential policy framework. Given the constant evolution of the financial system and the attendant risks, we need a framework in which regulation, supervision and corporate governance complement each other.

2. Completing the reform and cementing the gains

2.1 Overall calibration of capital regulation

The reform has led banks to hold significantly more – and better-quality – capital than in the past. It has also induced them to build stronger liquidity positions. Thus, at the current juncture, there is a general sense that minimum capital requirements are roughly within an adequate range. The remaining work on finalising the regulatory agenda is not intended to raise capital significantly. Of course, this comes with the understanding that national authorities may go beyond the minimum requirements, if necessary, in order to address specificities.

That said, I would stress how important it is to cement the achievements of the reform to date. Equity capital is the foundation on which banks base the lending that supports the real economy. BIS research has found that more capital, within a reasonable range, goes hand in hand with more lending.[1] For a sample of roughly 100 banks, a 1 percentage point increase in the equity-to-total assets ratio tends to come with a 0.6 percentage point increase in annual loan growth. This outcome is consistent with funding markets rewarding banks that have strong balance sheets. Indeed, a 1 percentage point increase in the equity-to-total assets ratio tends to be associated with a 4 basis point decline in the cost of debt financing.

These considerations should be taken into account in order to strike the right balance in the calibration of overall capital requirements. Given the lack of appetite to significantly raise capital going forward, we need to ensure that, as the reform is finalised, the minimum requirements do not decline either. In setting the leverage ratio requirements, for example, it is important to weigh recent concerns about the regulatory impact on market liquidity against the benefits of equity capital for banking activities. I expand on this point later.

2.2 Regulatory risk weights: balance between risk sensitivity and simplicity

In finalising the regulatory reform, a key challenge is to address any excessive variation in risk weights across banks and still maintain the risk sensitivity of capital requirements.

To this end, the Basel Committee on Banking Supervision (BCBS) is working on constraining the use of banks' internal models. Recent BCBS consultative documents have aired plans to remove internal models for certain risks, such as operational risk.[2] The plan under discussion also proposes to constrain

---

1 See L Gambacorta and H S Shin, "Why bank capital matters for monetary policy", *BIS Working Papers*, no 558, April 2016.

2 See Basel Committee on Banking Supervision, *Standardised Measurement Approach for operational risk – consultative document*, March 2016.

the use of internal models for credit risk, in particular through the setting of floors for certain risk parameters or for risk weights.[3] In this context, the ultimate backstop is the leverage ratio requirement, calibrated under the principle of "belt and braces". BIS research finds that standard setters can raise the minimum leverage ratio requirement above 3% and still obtain net economic benefits.[4]

With all these complementary options under discussion, it is important to keep in mind the reason for reducing excessive risk weight variability. It is to block aggressive "optimisation" of risk weights by banks, since this type of behaviour drives a wedge between bank capital and the underlying risks. Thus, outlier banks that have stood out with low risk weights should expect to see an increase in their capital requirements.

It is also important to keep in mind that the true riskiness of exposures is always unknown and that, as a result, some variability in risk weights is healthy. Healthy variability comes from internal models that differ across banks. The errors generated by different models tend to cancel each other out in the aggregate. They are thus stabilising from a systemic perspective.

The use of internal models for regulatory purposes also makes banks responsible for maintaining state-of-the-art risk management frameworks. This task sets up a continuous dialogue between bankers and supervisors on how to keep on improving risk measurement and management. Without reliable risk measurement – which hinges on both good models and high-quality data – it is impossible to uphold the principle that where there is more risk, there should be more capital.

We should also recognise that material uncertainty about risk parameters may remain even when we have the best data we can realistically get. In such cases, there should be regulatory safeguards for uncertainty. Securitisation provides a case in point. The BCBS-IOSCO criteria for simple, transparent and comparable securitisations are a welcome step towards distinguishing structures that require less capital from those that require more. That said, BIS research has shown that even unrealistically simple structures are subject to substantial uncertainty. And this unavoidable uncertainty calls for sturdy regulatory safeguards.[5]

2.3 Banks' sovereign exposures

The challenge of sustaining the risk sensitivity of regulation comes to the fore in the context of banks' sovereign exposures.

Even though the underlying philosophy of the Basel framework is to have regulatory capital for each risky exposure, national authorities can – under their own responsibility – make an exception for certain sovereign exposures. A footnote in the current regulatory text allows national supervisors to accept zero risk weights for sovereign exposures denominated and funded in the obligor's domestic currency. There has been a general use of this clause. The preferential treatment of sovereign exposures extends to liquidity requirements and to large exposure rules. This treatment is currently under review, the timeline of which will mostly likely extend beyond the finalisation of the other components of the regulatory reform.

Arguments have been made from a market functioning perspective in support of some preferential treatment of sovereign exposures. They underscore that banks are crucial for the proper functioning of sovereign debt markets, especially in emerging market economies with nascent fixed

---

3 See Basel Committee on Banking Supervision, *Reducing variation in credit risk-weighted assets - constraints on the use of internal model approaches – consultative document*, March 2016.

4 See I Fender and U Lewrick, "Calibrating the leverage ratio", *BIS Quarterly Review*, December 2015.

5 See A Antoniades and N Tarashev, "Securitisations: tranching concentrates uncertainty", *BIS Quarterly Review*, December 2014.

income markets. They also emphasise that increasing banks' cost of holding sovereign exposures runs the risk of impairing the conduct of monetary policy.

But from a prudential perspective, the drawbacks of the preferential treatment of sovereign exposures are clear. Such treatment undermines the risk sensitivity of international standards, ignoring historical evidence that local currency debt is not risk-free and exposure to it can wreak havoc on banks. Given this evidence, the preferential treatment of sovereign exposures is distortionary: it introduces inconsistencies with the rest of the framework, where capital requirements go up with exposure riskiness. This leads to a mispricing of risks that could translate into a misallocation of resources, eg from SME financing to sovereign financing.

In sum, the regulatory treatment of sovereign exposures involves important trade-offs. Keeping the sovereign-bank nexus in mind and targeting an efficient allocation of resources, we should weaken the current privileged status of these exposures.

3. A holistic approach to regulation

I now switch gears and argue for a holistic approach to prudential policymaking. Such an approach is necessary for an appropriate assessment of the effect of reforms and for the identification of new risks in the constantly evolving financial system.

3.1 Evolution of market liquidity

Let me start by talking about changes in the provision of market liquidity, which is becoming more relevant as more financial intermediation is facilitated in capital markets. The global financial crisis offered an extreme example of the inherent procyclicality of market liquidity. During the boom, excessive leverage and a mispricing of risks resulted in cheap liquidity that market players took for granted. Their illusion was eventually exposed in a sudden bust, in which liquidity dried up.

The old normal is thus a bad reference point, as it generates unjustified fair weather complacency. This recognition has led to a number of post-crisis policy measures that have aimed at attaining a more conservative pricing of liquidity provision during normal times. Such measures are a key step towards limiting liquidity illusion.

Of course, limiting liquidity illusion in normal periods does not automatically guarantee resilient liquidity at times of generalised financial stress. At such times, private liquidity provision inevitably drops: no one wants to catch a falling knife. It is thus important to be realistic about our objectives as regards market liquidity.

An immediate objective is to correct for the fair weather underpricing of liquidity risks. More conservatively priced – and thus less liberally supplied – market-making services in normal times will dampen the inherent procyclicality of financial liquidity. A key benefit of reduced procyclicality is reduced vulnerability of market-makers' clients to *ordinary* liquidity shocks. This means that *ordinary* shocks would be less likely to feed on themselves and generate system-wide stress.

3.1.1 Dealers' retrenchment

A recent report of the Committee on the Global Financial System takes stock of the evolution of market liquidity.[6] One finding is that standard price-based indicators do not signal conclusive evidence of a reduction in liquidity. Nonetheless, dealers' retrenchment is evident in quantity-based indicators, such as transaction sizes and inventories.

Admittedly, since it is a balance sheet-intensive activity, market-making has also become more capital-intensive under new or forthcoming regulation. This leads me to two questions: Does more capital support or weaken market-making? And has regulation imposed a binding constraint on market-makers?

Regarding the role of equity capital, a speech by Hyun Shin at the London Business School,[7] offers an interesting chart. This chart shows that in the good old times of ample market liquidity, US dealers increased their leverage from around 28 in 2000, to 50 just before the crisis. By early 2009, well before new regulation was agreed on, leverage had fallen back to 28. Since then, there have been further reductions.

To refer to a metaphor I borrow from Hyun Shin, dealers' high pre-crisis leverage meant that liquidity provision was based on weak foundations. A leverage of 50 was too weak a foundation on which to base resilient liquidity provision. This made it impossible for dealers to provide liquidity in the face of volatility and market strains. Dealers' own risk aversion – not regulators – demanded deleveraging, and dealers had to shed inventory at a time that was inopportune from a financial stability perspective. This destabilising behaviour could have been mitigated had dealers' equity capital been more closely aligned with the size of their balance sheets.

Another piece of evidence in Hyun Shin's speech addresses the second question above: Has regulation imposed a binding constraint on market-makers? This evidence reveals that banks have effectively restrained their market-making capacity, while acting of their own free will. In a group of 70 large banks, less than half of the cumulative net income between 2007 and 2014 was ploughed back into capital ($1.4 trillion). The remainder – more than $1.7 trillion – was paid out in the form of dividends and share buybacks. Thus, far from being constrained by regulation, large banks have systematically disregarded opportunities to further strengthen their capital positions. Had they retained more of their earnings, they would have been better positioned to expand their intermediation activities.

These observations steer us to adopt a holistic view on the effects of the regulatory reform on the provision of liquidity services by market-makers. Yes, this reform raises the cost of balance sheet-intensive activities, such as market-making. But the flip side of this is stronger balance sheets that will improve dealers' resilience. Improved resilience also goes through a more conservative pricing of liquidity services in normal times. By encouraging such pricing, regulation is in effect incentivising banks to account for the risk of liquidity illusion. In sum, in qualitative terms, we are moving in the right direction.

And in quantitative terms: is the price of liquidity provision too high or too low? Has regulation induced dealers to retrench too much? This is an important empirical question, which I am sure many researchers will try to answer. An informative empirical assessment will need to take into account that – besides regulation – there are also other drivers of dealers' retrenchment. Such drivers include a post-crisis decline in dealers' risk tolerance and a shift to more conservative and more granular risk assessments. Structural changes in financial markets, such as an increase in algorithmic and high-frequency trading and the entrance of new liquidity providers, have also played role. In addition, unconventional monetary policy has altered the cost-benefit trade-offs in the holding of inventories: it has suppressed volatility at low interest rates and has soaked up the supply of high-quality collateral.

---

6 See Committee on the Global Financial System, "Fixed income market liquidity", *CGFS Publications*, no 55, 2016.

7 See H S Shin, "Market liquidity and bank capital", speech at London Business School conference "Perspectives 2016: Liquidity Policy and Practice", 27 April 2016.

3.1.2 Asset managers: maintaining the liquidity illusion

An empirical assessment of the price of liquidity will also need to take into account the evolution of the attendant risks. This leads me to the topic of asset managers. Having gained in market presence post-crisis, asset managers and their activities are receiving much more attention because their business models can spur behaviour that amplifies market volatility. This is what we call leverage-like behaviour. Such behaviour sows the seeds of market liquidity risks.

While dealers are scaling down the provision of market liquidity, asset managers continue to promise redemptions at short notice, thus encouraging their clients' liquidity illusion. As they may not be able to live up to their promises under financial stress, asset managers could exacerbate liquidity shortages at the wrong time.[8]

Prudential work is under way in this area, involving asset managers and supervisors. The former will need to internalise recent market changes in general and changes to the provision of liquidity services in particular. In turn, supervisors are stepping up the usage of stress tests.

3.2 CoCo bonds: a recent example of new risks

Another example of new risks comes from the recent gyrations in the market for contingent convertible – or CoCo – bonds. CoCo bonds that meet new regulatory requirements enhance banks' loss-absorbing capacity. One of CoCos' loss-absorbing features is a contingent suspension of coupon payments. In February this year, CoCo investors perceived a rise in the likelihood of such a suspension. At the same time, banks' share prices went on a downward spiral and CDS spreads surged. A holistic view reveals that these developments were consistent with sophisticated CoCo investors' hedging against looming losses. The hedging involves the concerted selling of shares and buying of insurance through CDS contracts, which amplifies financial stress.

The risk generated by CoCo investors' hedging behaviour is a new type of risk, brought about by a new type of instrument. While it is important to keep this risk in mind going forward, we should of course also recognise the benefits of CoCos' loss-absorbing features. Besides the suspension of coupon payments, contingent writedowns or conversions to equity imply that CoCo instruments would be in a position to keep troubled banks afloat. At a time of stress, CoCos would thus automatically draw in fresh equity to keep banks resilient.

4. The case for proactive supervision taking a more prominent role

Timely finalisation of the regulatory reform, guided by a holistic view, is necessary for cementing the post-crisis gains in strengthening the financial sector. But, looking forward, we will need to cope with the evolving nature of financial intermediation. The constant evolution of the financial system and the morphing of risks implies that there is much to be gained from having a prudential policy framework that can adapt without resorting to frequent rule changes: a framework in which proactive supervision takes a more prominent role than in the past in order to more effectively complement regulation and corporate governance.

Supervisory measures have the advantage of being quickly adaptable to changing terrain. By complementing regulation, proactive supervision could help reduce the need for repeatedly refining and

8 On asset managers' behaviour that amplifies the procyclicality of market liquidity, see J Shek, I Shim and H S Shin, "Investor redemptions and fund manager sales of emerging market bonds: how are they related?", *BIS Working Papers,* no 509, 2015.

changing regulatory standards – thereby promoting regulatory stability. My earlier discussion of risk weight variability helps illustrate this complementarity. By imposing a stricter model approval process, supervision can strengthen banks' discipline in developing, maintaining and using properly constrained models. This would contribute to the robustness of model outputs for a given set of regulatory standards. In addition, stress tests can provide supervisors with valuable information about the need to go beyond the regulatory minima.

To be sure, banks have to have the prime responsibility for their own risk management. This requires a solid corporate culture, which supervisors neither can nor should control. But supervisors can set expectations about corporate values, processes and incentives. They also can require banks to put in place and adhere to robust corporate governance policies and practices. To assist supervisors, the BCBS has revised its principles for sound corporate governance practices at banking organisations. In particular, the new principles seek to stem excessive risk-taking by better aligning remuneration with risk.[9] In addition, an FSB guidance paper from 2014 sets good governance, adequate risk appetite and aligned compensation as the three foundations of a sound culture.[10] The FSB is also coordinating work by standard-setting bodies on strengthening governance structures and addressing misconduct risk. In addition, the Group of Thirty has also produced very useful documents on risk culture.[11]

Ultimately, we should stimulate financial institutions' commitment to robust risk management. In recent years, banks have been building up capital positions to meet new regulatory requirements, partly in response to a post-crisis transition to stricter international standards. In addition, regulation should be expected to be a binding constraint during financial booms, when private risk assessments tend to be overly optimistic and individual institutions do not internalise the build-up of systemic risks. But once the post-crisis transition is over and we find ourselves in a neutral financial environment, banks' economic capital, derived from internal risk management systems, should take centre stage. This will allow for a mutually beneficial dialogue between banks and supervisors on the assessment of constantly evolving risks. It will also be consistent with the principle that the management of risks is the responsibility of banks, not of their supervisors.

5. Conclusion

Focusing my remarks on the banking sector, I have called for cementing the gains of the post-crisis regulatory reform. The immediate task is to complete the regulatory agenda in a way that recognises the fundamental importance of equity capital for intermediation activities and attains robust risk weights while maintaining the risk sensitivity of the regulatory framework. Both in performing this task and in looking forward, policymakers should adopt a holistic view that takes account of the constantly evolving financial system and the morphing of attendant risks. Such a view reveals that, in order to sustain the gains of the post-crisis reforms in the long run, we need to complement regulation with flexible supervisory tools and ensure banks' active involvement in the risk measurement and management process.

---

[9] See Basel Committee on Banking Supervision, *Corporate governance principles for banks*, July 2015.

[10] See Financial Stability Board, *Guidance on supervisory interaction with financial institutions on risk culture: a framework for assessing risk culture*, April 2014. Other related FSB reports include *Principles for an effective risk appetite framework*, November 2013, and *Principles for sound compensation practices*, April 2009.

[11] See Group of Thirty, *Banking conduct and culture: a call for sustained and comprehensive reform*, July 2015; *A new paradigm: financial institution boards and supervisors*, 2013; and *Toward effective governance of financial institutions*, 2012.