Danièle Nouy: Risk and capital – a balancing act

Speech by Danièle Nouy, Chair of the Supervisory Board of the ECB, at the Austrian Chamber of Commerce, Vienna, 2 May 2017

Ladies and gentlemen,

The French poet Paul Valéry once wrote: “Ce qui est simple est toujours faux. Ce qui ne l’est pas est inutilisable.” Everything simple is false. Everything complex is unusable. When he wrote this, I’m sure he wasn’t thinking about banks. But his comment can be applied to an issue that regulators, supervisors and risk managers face: how to calculate the right amount of capital?

Let us first take a step back: capital is the most universal buffer that banks have. The more capital a bank holds, the more losses it can take before it fails. That’s why capital is a key ingredient for safe and sound banks that are trusted by markets and customers.

But at the same time, capital is costly. Holding too much of it can force banks to raise their lending costs. This, in turn, would raise borrowing costs for companies and may act as a brake on investment and economic growth. Consequently, there must be an optimal amount of capital that banks should hold.

So how can we calculate how much capital a bank should hold? The answer lies in the risks it takes. The more risks a bank takes, the more likely it is to face losses. Consequently, higher risks require more capital. Measuring risks is therefore key to calculating capital.

But this is easier said than done. Risks are mere probabilities. They indicate the likelihood of things happening in the future. Dealing with risks therefore involves predicting the future – and that is not easy, to put it mildly.

Every day, all of us face risks. Will it rain today? Should we take an umbrella or risk getting wet? The weather forecast might tell us that there’s a 70% chance of rain. But what does that mean? Well, it means that it might rain or it might not, and that the former is a bit more likely than the latter. But it’s only at the end of the day that we know how things actually turned out.

With banks, things are even more complicated. They have to deal with a lot of different and very complex risks. Will a creditor pay back its loan? Will interest rates rise or fall? Will exchange rates move up or down? Here we are talking

about things like credit risks, interest rate risks, market risks and operational risks, to name just a few.

All of this makes measuring risks and calculating the right amount of capital tricky tasks. And if banks get it wrong, they either might not have enough capital and fail; or they might have too much capital and become inefficient.

So the question is how to capture all the risks and translate them into an adequate level of capital. Over time, many different approaches have been developed to do just that. And to come back to Paul Valéry: some of these approaches are simple and some are not. Let's take a closer look.

Measuring risk – keeping it too simple misses the point…

The simplest approach is to acknowledge the risk but refrain from measuring it – just take an umbrella with you whenever you leave the house. For banks, that would mean holding an amount of capital that is only linked to the size of its balance sheet, but not to its risks. This approach is known as the leverage ratio.

Martin Hellwig and Anat Admati are among those who advocate a leverage ratio, if this ratio is high enough. They suggest that banks should hold up to 25% of their balance sheets as capital[1] – no need to struggle with measuring risks. Arguably, this approach is easy to implement, transparent and makes it possible to draw comparisons between banks.

But such a simple approach has its shortcomings, of course. It somehow misses the point. Banks with low risks would have to hold the same amount of capital as banks with high risks. What would happen?

Well, low-risk investments give low returns, and high-risk investments give high returns. So the most likely scenario is that banks would take on high risks that would require the same amount of capital as low risks, but produce higher returns. This, however, would undermine the stability of banks.

And a leverage ratio ignores the fact that, to a certain degree, risks can be measured. We can determine the likelihood and impact of certain events. So we can indeed take a bank's risks into account when calculating the right amount of capital.

And that's what capital regulation does. The rulebook for banks does contain risk-sensitive elements. One example is the standardised approach to credit

[1] Admati, A. and Hellwig, M., *The Bankers' New Clothes,* Princeton University Press, Princeton, 2013.

risk, which was introduced in 2004. It assigns standard risk weights to various asset classes.

Loans to corporates, for instance, have a risk weight of 20%. That is, a loan of €100 becomes €20 when calculating the necessary capital. The remaining €80 is not taken into account – it is considered to be risk-free.

So unlike the leverage ratio, the standardised approach is risk-sensitive, to a certain extent. But it is clearly relatively simplistic. It would be like looking out of the window and taking an umbrella with us whenever there is a single cloud – no matter whether it's big and grey or small and white.

The standardised approach fails to capture diverse and changing risks within asset classes. It still might result in situations in which risky banks don't hold enough capital, while less risky banks hold too much.

…while being too complex defeats the purpose

So the standardised approach is not the end of the story. Banks are allowed to go further and use their own internal models to calculate risk weights for some types of risk. In a sense, these models are similar to those used by weather forecasters. They give us very detailed advice on when to take an umbrella with us.

The idea of internal models is to map the specific risks of a bank as precisely as possible. As a result, each bank holds capital that exactly matches its risks. That's the theory at least.

In practice, there are some problems. One is that the models rely on the past to assess the future. So they have a hard time calculating the probabilities of events that rarely happen. And events that have never happened before are entirely out of reach. These are the dreaded black swans.

In August 2007, the chief financial officer of Goldman Sachs made a famous claim. He said that, at the time, they were experiencing market events that should have been almost impossible. From a statistical point of view, there should have been one such event, at most, since the beginning of the universe. This shows the extent to which models sometimes struggle with risks.

There's no way around it: risks are risks, and even the best models fail to capture them perfectly. And in trying to be as accurate as possible, the models become ever more complex. Some of them are so complex that only a handful of people can understand them. Such complexity makes them prone to error and manipulation.

There are studies which indicate that the results of internal models are not only driven by actual risks – modelling choices seem to play a role, too. Martin Hellwig may have a point when he claims that, in practice, internal models have allowed banks to underrate risk in order to reduce their capital requirements. That does not help to restore trust in banks.

To sum up, the leverage ratio does not attempt to calculate risks at all. This encourages banks to move towards more risky business. The standardised approach, on the other hand, provides a simple method for calculating capital on the basis of risks. However, it remains very general – banks might still end up having too much capital or not enough. Finally, internal models try to map risks as precisely as possible. But they are prone to error and manipulation, and may provide a false sense of security.

Striking a balance – the regulatory and supervisory approach

So, what should be done? The aim should be to strike a balance between being too simple and too complex. John Maynard Keynes once said: “It is better to be roughly right than precisely wrong.”

First of all, risk sensitivity must remain at the core of capital rules. The risks that a bank takes must be considered when calculating how much capital it needs to hold. But at the same time, we must put some backstops in place. These are necessary to account for risks that are difficult or impossible to model.

One of these backstops is the leverage ratio. We therefore welcome the fact that the European Commission has now proposed implementing the leverage ratio in EU law. It will serve as a sensible supplement to the more risk-sensitive approaches. The combination of risk-sensitive capital requirements and a leverage ratio is what became known as the “belt and suspenders” approach; you need both to keep your trousers in place.

But there could be more backstops. At the global level, the Basel Committee on Banking Supervision is still discussing several open issues in the new Basel III rulebook. One of these issues is an “output floor” for the internal models that banks use to calculate risk weights. The floor is supposed to ensure that the risk weights calculated by the models do not fall below a certain level.

Such a floor could mitigate potential model errors and increase trust in risk weights and capital ratios. It would thus serve as another backstop to the risk-sensitive approach. The final design and calibration of the floor are still being discussed, and the intention is to avoid significantly increasing the overall capital requirements for banks. It is crucial that an agreement is reached as

quickly as possible. We have to finalise the entire Basel III package to ensure that a global standard is in place.

But it is not just about backstops, of course. The internal models themselves should calculate reliable risk weights in the first place. And this is where the ECB comes into play. We have launched a major project – the targeted review of internal models, or TRIM as we call it. So far, TRIM is the second largest project that we have launched – only the 2014 comprehensive assessment was larger. We expect to finalise it in 2019.

TRIM seeks to ensure that banks' internal models are reliable and comparable. Their results should only be driven by actual risks – not by modelling choices.

In pursuit of that goal we have just published a guide that sets out our supervisory practices and how we interpret EU law on internal models. This will ensure a common approach when dealing with the models. We have also put in place a common method for on-site inspections. More than 100 such inspections will take place in 2017. Their goal will be to assess internal models for credit risk, market risk and counterparty risk.

Banks will then have to address any gaps in their compliance with relevant EU law and our guide. This will ensure that the results of internal models are driven by the actual risks of a bank. The models will become more reliable, more transparent and more comparable, and trust in their results will increase.

It is important to note that we do not intend to increase the overall capital requirements for banks. Still, for individual banks, TRIM might lead to an increase or decrease in capital.

Conclusion

Ladies and gentlemen, banks provide vital services to the economy by channelling funds from savers to borrowers and investors. In Europe in particular, they play a major role in financing the economy. That's why we need them to be safe and sound.

Capital buffers are crucial to achieving that goal. They should be calculated on the basis of the actual risks of the banks. This includes the standardised approaches as well as the internal models.

The leverage ratio will serve as a sensible backstop to such a risk-sensitive approach. The same could be true for the output floor that is currently being discussed by the Basel Committee on Banking Supervision. These backstops would go hand in hand with the ECB's efforts to make internal models more

reliable and comparable. I am convinced that all these measures will make banks more resilient and increase trust in their capital buffers.

And looking at the current level of these buffers, there is good news. Since 2012, the amount of capital held by large banks in the euro area has risen, on average, from 9% to over 13%. We welcome this, as banks now hold larger buffers against potential losses.

Coming back to measuring risks, we should be ambitious but realistic. We must not succumb to the illusion that all risks can be measured and modelled. The approach should rather be to avoid excessive risk taking. And that does not always require complex models or rules. More often than not, common sense and a bit of prudence provide all the guidance that is needed.

Thank you for your attention.