Jens Weidmann: The relationship between monetary and macroprudential policies - black and white or shades of grey?

Dinner speech by Dr Jens Weidmann, President of the Deutsche Bundesbank and Chairman of the Board of Directors of the Bank for International Settlements, at the Annual Meeting of the Central Bank Research Association, Frankfurt am Main, 20 August 2018.

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1 Introduction

Ladies and gentlemen

The Bundesbank is honoured to have organised this evening's dinner. And for me, it's a great pleasure to be here with you at the Annual Meeting of the Central Bank Research Association, or CEBRA for short.

CEBRA is a fine example of the art of the acronym. If you think about central bankers, I dare say creativity won't exactly be the first quality that springs to mind. But coining new acronyms does appear to be one discipline that really gets central bankers' creative juices flowing. We also came up with CAMELS, which stands for capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk. However, our acronyms are not just confined to hoofed animals. There is TARGET, of course. And we have ART, for alternative risk transfer; CAR, for capital adequacy ratio; and CEIOPS, which is short for Committee of European Insurance and Occupational Pensions Supervisors and has a certain pyramid ring to it.

Examples of contrived acronyms abound: they have been intentionally designed to convey a positive connotation or double meaning. In the case of CEBRA, one naturally thinks of those wild animals that are closely related to horses and populate Africa's grasslands and savannahs. With their distinctive black and white stripes, zebra are a snappy image for the academic dialogue and discourse which we cherish at conferences such as this. But zebra are also known for forming large herds and intermingling with other mammals, especially with wildebeest, which are also known as gnus. Both species subsist on grasses, and you might think that they compete for food. So how come they graze peacefully in mixed herds? What's behind their special relationship?

This was a long run-up, but it does lead to one of the key issues addressed at this year's meeting: What's behind the special relationship between monetary and macroprudential policies? What are the linkages between monetary policy and financial stability, and what follows from there?

2 Monetary policy and financial stability

Questions like these are a focal point of the Bundesbank's research. Under the patronage of Markus Brunnermeier and Eric Leeper, and in tandem with Sweden's Riksbank, the Bank of Canada and the Federal Reserve Bank of New York, the Bundesbank established the Trinity research network, as it is known, to investigate issues surrounding the interplay between macroeconomic policies.

When it comes to monetary policy and financial stability, there is now a substantial body of evidence which suggests that monetary policy affects economic agents' willingness to take on risk.[1] By lowering risk-free interest rates, monetary policymakers raise the attractiveness of riskier financial assets. With investors searching for yield or simply rebalancing their portfolios,

prices of risky assets then also increase.

This shows up in the data on investment decisions. Even German households – typically rather conservative in their choice of financial assets – have been seeking out potentially more lucrative, but also riskier options such as shares and mutual funds. According to Bundesbank data, equity and investment fund purchases by households made up more than 25% of all their financial investments in 2017; four years earlier, this share had been a meagre 6%.

Equities and investment fund shares did indeed still contribute to a positive real portfolio return for German households in recent years. However, due to the weak performance of capital markets in the first quarter of this year, their contribution has virtually vanished. Consequently, the total real return of households turned negative, as the Bundesbank has just highlighted in its August Monthly Report published today.[2]

Moreover, mutual fund managers have been increasing the duration and credit risk of their bond portfolios in response to low rates. In a recent paper, Emanuel Mönch and his co-authors examine bond holdings of more than 4,500 German retail and institutional investment funds. They find reach for yield in response to low rates to be pervasive and also document a persistent feedback of funds' buying pressures to bond prices.[3]

Given such evidence, it seems plausible that the comparatively high valuations in some asset markets in the euro area are being driven, in part, by the low level of policy rates.

To some extent, the impact of monetary policy on risk taking is not a mere side-effect. In their efforts to stimulate the economy, central bankers are also pinning their hopes on the portfolio rebalancing channel.

But monetary policy also affects the propensity of banks to assume risks in another, unintended way: the more protection is provided against potential risks, and the clearer the prospect of easy funding if push comes to shove, the less wary banks might be of taking on excessive risk. Economists like Raghuram Rajan and Jean Tirole,[4] to name but two, argue compellingly that the prospect of readily provided central bank funding in case of a financial downturn constitutes a powerful incentive for banks to take on greater risks.[5]

There can be little doubt, then, that monetary policy is able to influence financial stability. What follows from that? Should financial stability become an additional objective of monetary policy? Maybe even on a par with price stability? To me, this would be a perilous proposition. For one thing, aiming for more than one objective risks complicating communication with the general public, thereby jeopardising accountability.

Financial stability poses even greater challenges in this regard, as it is a multi-faceted concept. Price stability is typically specified in terms of changes in a consumer price index and a time frame. But financial stability cannot be boiled down into a single indicator in the same way. Financial stability is therefore often described, very broadly, as a state in which the financial system performs its functions for the real economy properly. As Otmar Issing once observed: "Defining financial stability is as difficult as it is important."[6]

But if an objective cannot be effectively measured, confidence in actions taken towards this objective will naturally be limited. In other words, the credibility of monetary policy could be undermined if tasked with financial stability.

What is more, a multitude of objectives might force monetary policy into unfavourable trade-offs. It risks exposing monetary policy to greater political pressure, and more besides.

By generating higher inflation, monetary policy could lower the real level of debt and thereby mitigate financial imbalances after their build-up. Thus, if monetary policy has been tasked with

aiming for both price stability and financial stability, a time-inconsistency problem can arise. As Kenichi Ueda and Fabían Valencia have highlighted, such a central bank may have an incentive to deviate from the socially optimal inflation ex post.[7]

3 The role of macroprudential policy and monetary analysis

Taking on financial stability as an additional objective for monetary policy would likely do more harm than good. Nevertheless, central banks can play a productive role in safeguarding financial stability. It certainly makes sense to harness central banks' high level of expertise with regard to financial stability risks. However, the "weapon of choice" for combatting these risks is not monetary policy – it is macroprudential policy. In his first speech as a Governor at the Federal Reserve Board, Ben Bernanke demanded: "Use the right tool for the job."[8]

To stretch the analogy with the African fauna further, this is something we could compare to the feeding habits of zebra and wildebeest. They graze alongside each other, of course, but they actually feed from different grass heights, with zebra preferring taller grass and wildebeest focusing on short grass. Researchers have attributed this selection to anatomic differences in mouth dimensions.[9]

In a similar vein, macroprudential instruments can be used in a far more targeted way than monetary policy. They cut the grass at a different level, so to speak. This is of particular use with respect to the euro area. Macroprudential tools can be employed at the level of member countries to combat problematic developments in national financial systems – developments that cannot be counteracted by the single monetary policy.

One of the instruments to address exuberance in the financial system are countercyclical capital buffers. Moreover, as real estate markets have underscored their destabilising potential during the last crisis, many tools are geared explicitly towards this market. Caps on the loan-to-value or debt-to-income ratios are two examples of instruments that allow for a tempering of the demand for mortgages.

However, if we are to deploy these new policy instruments, we need to gain a better understanding of how they affect macroeconomic performance and interact with monetary policy. A forthcoming Bundesbank discussion paper points out the danger of "financial dominance". Within a DSGE model, Vivien Lewis and Markus Roth demonstrate that, if macroprudential policy is too lax, monetary policy may be forced to do the job by driving inflation above its price stability target and reducing the real burden of private debt.[10] Thus a stringent macroprudential reaction to financial stability risks is also a means to protect monetary policy. To ascertain when we should adjust macroprudential tools, and by how much, we need to know how effective these tools are, and whether the transmission channel is subject to lags. So far, there is limited empirical evidence to guide us.[11]

Although it is certainly reasonable to harness central bank information in assessing financial stability risks, the final decision on the use of macroprudential instruments does not need to be made by central banks as well. Germany is a case in point here. While the Bundesbank provides an assessment, it is the government that ultimately decides whether and how macroprudential measures are employed. Central bank analysis is brought to fruition, but a different decision-making body provides an extra layer of insurance that monetary policy does not get mired in a potential conflict between price stability and financial stability goals.

But given the uncertainty about the effectiveness of macroprudential tools, should monetary policy remain completely passive if financial imbalances were to build up? In my view, this would be a mistake. As we have witnessed, financial crises have a considerable impact on

macroeconomic outcomes and, ultimately, central banks' ability to guarantee price stability.

During the recession of 2008-09, real GDP in the US decreased by 4%. The unemployment rate peaked at 10% in October 2009 after a cyclical low of just 4.4% in May 2007. In other words, the number of unemployed persons surged by 8.6 million to more than 15 million. Finally, annual inflation, as measured by the PCE deflator (the Federal Reserve's preferred gauge), averaged just 1.3% between 2009 and 2017, compared to 2.4% in the preceding nine years.

In the long term, price stability and financial stability can complement each other. Thus, taking a longer-term perspective on inflation, central banks might be compelled to act on the build-up of financial imbalances despite having a single objective.

Let us again consider the mixed herds of zebra and wildebeest in Africa. Their selection of different grass heights may account for the lack of food competition, but it cannot explain their intermingling. However, both species face common predators, especially lions. In this context, evidence suggests that zebra benefit from the presence of wildebeest: they spend considerably less time keeping watch for predators in a mixed herd than in a zebra-only herd of the same size. This finding could be due to the wildebeest's superior ability to detect predators, as they may have better – and complementary – senses of smell and hearing.[12]

In a similar vein, developments in the financial system can provide central banks with valuable information. In general, there is ample evidence that financial conditions do contain information about future economic activity. For instance, Tobias Adrian and his co-authors have shown that downside risks to GDP growth increase as financial conditions tighten.[13] More to the point, the source of financial crises is often related to excessive credit growth. Although not every extraordinary credit boom results in a full-blown financial crisis, Moritz Schularick and Alan Taylor warn that policymakers ignore credit at their peril.[14] This pattern held up in the last crisis as well. In the euro area, growth of credit to the private non-financial sector surged from 6% in 2003 to more than 11% in 2007. Broad money growth increased at a similar clip over this period.

The ability of credit quantity to help predict future crises therefore shows that the second, monetary, pillar of the Eurosystem's monetary policy strategy is still very relevant today. Moreover, as Volker Wieland and others have demonstrated, cross-checking economic analysis with monetary analysis can be helpful in the context of data uncertainty.[15]

4 Microprudential supervision and regulation

A final lesson of the crisis should not be forgotten. Ten years ago almost to the day, and just a few weeks before the collapse of Lehman Brothers, Chairman Ben Bernanke gave a speech at the Federal Reserve Bank of Kansas City's Annual Economic Symposium in Jackson Hole. In his comments, he explored ways to reduce systemic risk and suggested a broader, system-wide approach for supervisors and regulators.[16] The establishment of such a macroprudential approach in recent years is a major achievement. In interconnected systems, risks can be propagated and amplified – this is the famous domino effect.

However, this does not mean that traditional microprudential regulation and supervision have lost any of their importance. Quite the opposite is the case, in fact. As Edward Lazear has pointed out, not only the domino effect was at work during the crisis, but also the "popcorn theory".[17] When popcorn is heated in a pan, every kernel will eventually pop, irrespective of whether the other kernels have already popped or not. The heat affects each kernel equally and causes each of them to eventually pop. There is no chain reaction taking place. The reason they pop can be found in the design of the popcorn kernel. The kernel is protected by a hard outer shell or hull. Within, water is enclosed. Under sufficiently high heat, the water turns into steam,

raising the pressure inside the kernel. At a temperature of approximately 180 degrees Celsius, the pressure becomes strong enough to burst the shell.[18]

We could compare the pressure inside the kernel to financial problems building up inside banks, while banks' capital may be thought to resemble the protective hull. Undercapitalised banks were a salient feature of the pre-crisis financial system. Ultimately, they were unable to sufficiently withstand financial stress. Fortunately, much has already been done in this regard, thanks to Basel III. A rollback of these reforms would therefore make the financial system decidedly less safe, in my view.

Nevertheless, we should evaluate the measures agreed upon and consider how they interact if we are to achieve the objective of financial stability as efficiently as possible. The G20 post-implementation evaluation, which is being discussed in a plenary session at this conference tomorrow, is therefore a necessary exercise. Streamlining regulation is important. But at the same time, we must not forget to examine the question of whether we are all the way there yet in terms of financial stability, particularly with regard to the crucial issue of too-big-too-fail.

5 Conclusion

Ladies and gentlemen

Africa's large herds of wildebeest and zebra have been monitored for a considerable time. In the late 1950s, the long-time director of Frankfurt Zoo, Bernhard Grzimek, and his son used a small aircraft to follow and count the migrating animals in Serengeti. Fittingly, their plane was painted in black and white stripes; it was called "Flying Zebra". To this day, the relationships within these herds remain a subject of academic publications.

The recent rise of the macroprudential policy domain only dates back to the crisis. Not surprisingly, we have to learn more about the interactions with monetary policy. This relationship is a natural topic for CEBRA – though it is certainly not a question of black and white. Between acknowledging financial stability as an explicit objective of monetary policy and disregarding it altogether, there is an intriguing range of shades of grey.

I have left plenty of other issues – and acronyms – for us to discuss this evening. For now, I suggest we devote our undivided attention to "Document Encoding and Structuring Specification for Electronic Recipe Transfer", otherwise known as DESSERT.

Thank you for your attention.

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1 See, for example, C M Buch, S Eickmeier and E Prieto (2014), In search for yield? Survey-based evidence on bank risk taking, Journal of Economic Dynamics and Control, 43, 12–30; and G Jiménez, S Ongena, J L Peydró and J Saurina (2014), Hazardous times for monetary policy: what do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking?, Econometrica, 82, 463–505, for evidence on the effects of monetary policy on risk taking.

2 Deutsche Bundesbank, Zur Entwicklung der realen Portfoliorenditen privater Haushalte in Deutschland, Monatsbericht, August 2018.

3 A Barbu, C Fricke and E Moench (2017), Procyclical asset management, reach for yield, and bond risk premia, mimeo.

4 D W Diamond and R G Rajan (2012), Illiquid banks, financial stability, and interest rate policy, Journal of Political Economy, 120, 552–591; E Farhi and J Tirole (2012), Collective moral hazard, maturity mismatch, and systemic bailouts, American Economic Review, 102, 60–93.

5 See also M Gertler, N Kiyotaki and A Queralto (2012), Financial crises, bank risk exposure and government

financial policy, Journal of Monetary Economics, 59,, 17–34, for a macroeconomic model in which the possibility of asset purchases increases banks' incentives to take more risk.

[6] O Issing (2003), Monetary and financial stability – is there a trade-off?, speech at the Conference on "Monetary Stability, Financial Stability and the Business Cycle", Bank for International Settlements, Basel.

[7] K Ueda and F Valencia (2014), Central bank independence and macro-prudential regulation, Economics Letters, 125, 327–330.

[8] B S Bernanke (2002), Asset-price "bubbles" and monetary policy, remarks before the New York Chapter of the National Association for Business Economics, New York.

[9] See R Arsenault and N Owen-Smith (2008), Resource partitioning by grass height among grazing ungulates does not follow body size relation, Oikos, 117, 1711–1717.

[10] V Lewis and M Roth (2018), Interest Rate Rules Under Financial Dominance, Deutsche Bundesbank, Discussion Paper, forthcoming.

[11] See R Bachmann and S Rüth (2018), Systematic monetary policy and the macroeconomic effects of shifts in residential loan-to-value ratios, CEPR Discussion Paper, 12024; and S Eickmeier, B Kolb and E Prieto (2018), The macroeconomic effects of bank capital requirement tightenings: evidence from a narrative approach, mimeo, for recent attempts to quantify the macroeconomic effects of macroprudential policies, mimeo.

[12] See M H Schmitt, K Stears, C C Wilmers and A M Shrader (2014), Determining the relative importance of dilution and detection for zebra foraging in mixed-species herds, Animal Behaviour, 96, 151–158.

[13] T Adrian, N Boyarchenko and D Giannone, Vulnerable growth, American Economic Review, forthcoming.

[14] M Schularick and A M Taylor. (2012). Credit booms gone bust: monetary policy, leverage cycles, and financial crises, 1870–2008. American Economic Review, 102, 1029–61.

[15] G Coenen, A Levin and V Wieland (2005), Data uncertainty and the role of money as an information variable for monetary policy, European Economic Review, 49, 975–1006.

[16] B S Bernanke, Reducing systemic risk, speech given at the Federal Reserve Bank of Kansas City's Annual Economic Symposium, Jackson Hole, 22 August 2008.

[17] E Lazear (2011), www.chicagobooth.edu/news/2011–10-25-lazear.aspx

[18] E Virot and A Ponomarenko (2015), Popcorn: critical temperature, jump and sound, Journal of the Royal Society Interface, 12, 20141247.