

## Peter Praet: Financial cycles and monetary policy

Speech by Mr Peter Praet, Member of the Executive Board of the European Central Bank, in the context of a panel on “International Monetary Policy”, Beijing, 31 August 2016.

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Financial asset prices and credit creation in the global economy are characterised by pronounced and recurrent ebbs and flows – a pattern we have come to refer to as the financial cycle.<sup>1</sup>

In my remarks today, I will discuss the role of monetary policy and other policy domains in steering this cycle.

Financial cycles derive from two closely related factors. The first is a natural tendency towards occasional bouts of “irrational exuberance” – for instance in response to promising scientific discoveries or technological advances – that lead investors to radically upgrade their future income expectations. The second factor is the capacity of financial intermediaries to transfer this expected increase in future income into the present through credit creation, thus establishing a financial upswing that constitutes the real-world counterpart to the upswing in economic optimism.

But when some of the expected benefits that investors ascribed to the new discoveries or technologies do not come to pass, this process goes in reverse. A period of collective retrenchment ensues and the financial cycle enters into a downswing.

Such cycles, while certainly painful for individual investors, are not necessarily harmful for the economy as a whole: productivity growth and technological progress rely on investments in promising but risky ventures, which are driven by entrepreneurial zeal and often financed by credit. As such, financial exuberance often acts as a by-product of economic progress.<sup>2</sup>

But this is not always the case: some asset price bubbles, for example in housing markets, may go along with a misallocation of resources and lower productivity growth. And in all instances the flip-side of financial exuberance is an increased risk of regular, and potentially violent, reversals<sup>3</sup> – a pattern we have seen repeatedly in history, going back at least to the Dutch Tulip Mania in 1636.<sup>4</sup>

Hence, for policymakers concerned with financial stability, financial cycles present two related questions. First, how should they identify when it is justified to intervene in the cycle? And second, if intervention is justified, which policy domain should act?

### Criteria for policy intervention

A key criterion to identify the case for pre-emptive policy intervention is the presence of systemic *negative externalities*. In the most general terms, such externalities arise whenever

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<sup>1</sup> See Claessens, S., M. Ayhan Kose and M. E. Terrones, “Financial cycles: What? How? When?”, IMF Working Paper, April 2011.

<sup>2</sup> See Ranciere, R., A. Tornell and F. Westermann, “Systemic Crisis and Growth”, The Quarterly Journal of Economics, Volume 123, Issue 1, 2008, pp. 359–406.

<sup>3</sup> See Akerlof, G. A. and R. J. Shiller, “Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism”, 2009.

<sup>4</sup> See Kindleberger C. P., and R. Z. Aliber, “Manias, Panics, and Crashes – A History of Financial Crises”, New York: Basic Books, 1978.

the costs of failed endeavours are not only borne by those who stood to benefit from the initial risk-taking activity, but also spill over to the wider financial sector and economy. Though they have macroeconomic consequences, these externalities typically originate from misaligned incentives at a microeconomic level – for instance pervasive *moral hazard* that induces agents into excessive risk-taking in their contractual relations. Not all such market failures are relevant for financial stability, but insofar as they aggregate up to a systemic level they may become relevant.

There is one specific embodiment of such externalities that has proven in the past to be particularly deleterious. This relates to the tendency for financial intermediaries to adopt unstable and run-prone funding patterns – a tendency that was particularly pronounced in the run-up to the last financial crisis when financial intermediaries, including depository but also non-depository institutions that operate in non-bank forms of intermediation such as the repo market, increasingly funded their exposures in the wholesale market.

These intermediaries had an incentive to reap liquidity premia that other investors were willing to pay for short-term assets that could be readily converted into currency and thus to finance long-term asset exposures with very short-term funding. This pattern of funding, however, exposes the system to fire-sale damage in case of a run on such short-term funding instruments. The externality, in turn, resides in the failure of financial intermediaries to internalise this fire sale damage, which affects the broader economy and not just the institutions engaging in such funding patterns.

Accordingly, when assessing the implications of swings in the financial cycle, the key issue for policymakers is not so much to diagnose irrational exuberance as to identify its *funding patterns* – namely, whether rising asset prices are being fuelled by excessive leverage and maturity transformation which will have systemic consequences when the cycle turns.

When such risks to financial stability are identified, however, the second question becomes salient: which policy domain should act to quell financial exuberance?

## **Responsibilities for managing the financial cycle**

To my mind the first line of defence must be a strong institutional and legal framework that directly targets the sources of market failure.

Such a framework would include sound financial regulation and macroprudential policy tools that limit excessive risk-taking in the boom and make banks more resilient to losses in the bust, for instance through higher, and potentially counter-cyclical, capital requirements, leverage limits and stable funding ratios. It would include strong resolution frameworks for banks and insolvency regimes to accelerate deleveraging and balance sheets repair after a crash. And it would include effective regulatory frameworks in other non-financial policy domains – especially in the housing market which has often acted as a key amplifier of financial boom and bust cycles. Housing bubbles, for example, can be fuelled by rigid zoning and land use regulations which cap housing supply, coupled with permissive underwriting standards for mortgages which stoke housing demand.<sup>5</sup>

In other words, ensuring financial stability requires the commitment of many policy actors – supervisors, regulators, governments – all of whom have to act in their own areas of responsibility.

But it is clear to me that central banks also have a role to play. Monetary policy inevitably interacts with the financial cycle – a view that has been borne out by a large and growing

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<sup>5</sup> Bernanke, B. S. (2010), “Monetary Policy and the Housing Bubble”, Speech at the annual meeting of the American Economic Association.

body of empirical evidence.<sup>6</sup> This interaction derives from the powerful impact that monetary policy can exert on risk-taking incentives, especially of financial intermediaries. Insofar as financial and business cycles are in sync, this may either magnify or moderate the ups and downs of financial markets.<sup>7</sup> And the interactions extend well-beyond country borders, since monetary policy affects yields and asset prices both in its domestic economy and, through portfolio balance effects, in foreign economies. Through these channels, monetary policy in large advanced economies can have a significant impact on financial stability elsewhere, especially in emerging markets.<sup>8</sup>

Importantly, this interaction does not weaken the case for a strong first line of defence. The alternative would be to rely on monetary policy to compensate for failures in other policy domains. But this would overburden monetary policy and lead to sub-optimal outcomes with regard to both – financial stability and broader macroeconomic stabilisation objectives; and this holds not only at the domestic level but also internationally. In fact, a large body of empirical work in recent years has shown that fiscal, macro-prudential, regulatory and supervisory policies can help mitigate the adverse effects of foreign monetary policy on domestic financial stability.<sup>9</sup>

Meanwhile, the experience with the taper tantrum in 2013 showed how differences in policy frameworks shaped how severely different economies were affected by financial spillovers.<sup>10</sup>

Still, even with an improved first line of defence, the question how central banks should incorporate financial stability in their reaction functions would remain relevant.<sup>11</sup>

One prominent view in the debate surrounding this issue is that, since price stability typically focuses on a shorter time horizon than is appropriate for interpreting financial cycles, there is

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<sup>6</sup> See Rey, H., “Dilemma not Trilemma: The global Financial Cycle and Monetary Policy Independence”, NBER Working Paper, No. 21162, May 2015; Adrian, T., A. Estrella and H. S. Shin, “Monetary Cycles, Financial Cycles, and the Business Cycle”, Federal Reserve Bank of New York Staff Reports, no. 421, January 2010; Juselius, M., C. Borio, P. Disyatat and M. Drehmann “Monetary policy, the financial cycle and ultra-low interest rates”, BIS Working Papers, No. 569, July 2016; Schularick, M. and A. M. Taylor, “Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870–2008.”, *American Economic Review*, Volume 102, No. 2, April 2012, pp.1029–61; Bruno, V. and H. S. Shin, “Capital flows and the risk-taking channel of monetary policy”, *Journal of Monetary Economics*, Volume 71, 2015, pp. 119–132; Hiebert, P., “Characterising the financial cycle: A multivariate and time-varying approach”, ECB-IMF 1st annual macroprudential policy and research conference, 26 April 2016.

<sup>7</sup> See Black, I. K. and R. J. Rosen, “Monetary Policy, Loan Maturity, and Credit Availability”, *International Journal of Central Banking*, Volume 12, No. 1, March 2016, pp. 199–230; Borio, C., L. Gambacorta and B. Hofmann, “The influence of monetary policy on bank profitability”, BIS Working Papers, No. 514, October 2015; De Groot, O., “The Risk Channel of Monetary Policy”, *International Journal of Central Banking*, Volume 10, No. 2, June 2014, pp. 115–159.

<sup>8</sup> See for example Koepke, R., “Determinants of Emerging Market Crises: The Role of U.S. Monetary Policy”, IIF Working Paper.

<sup>9</sup> See, for example, Blanchard et al. (2015), “Can Foreign Exchange Intervention Stem Exchange Rate Pressures from Global Capital Flow Shocks?”, *NBER Working Papers*, no. 21427; Forbes et al. (2015), “Capital flow management measures: What are they good for?”, *Journal of International Economics*, vol. 96(S1), pp. S76–S97; Afanasieff et al. (2015), “Implementing loan-to-value ratios: the case of auto loans in Brazil (2010–11)”, *Central Bank of Brazil Working Paper Series*, no. 380; Wong et al. (2015), “Using macro-prudential tools to address systemic risks in the property sector in Singapore”, *SEACEN Financial Stability Journal*, vol 4, pp. 27–41; Ostry et al. (2012), “Tools for managing financial-stability risks from capital inflows”, *Journal of International Economics*, vol. 88(2), pp. 407–421; Habermeier et al. (2011), “The effectiveness of capital controls and prudential policies in managing large inflows”, *IMF Staff Discussion Note*, SDN/11/14; Lim et al. (2011), “Macro-prudential policy: What instruments and how to use them? Lessons from country experiences”, *IMF Working Paper* WP/11/238.

<sup>10</sup> See Eichengreen and Gupta (2013), “Fed tapering and emerging markets”, VoxEU.org.

<sup>11</sup> For a review see Smets, F., “Financial Stability and Monetary Policy: How Closely Interlinked?”, *International Journal of Central Banking*, June 2014.

an inherent conflict between those different objectives. Only by opting for a “financial stability-oriented monetary policy”, the thinking goes, can such tensions be resolved – which would, in turn, support the achievement of both goals over a longer-term horizon.<sup>12</sup>

I would agree that such conflicts between objectives are possible. As an example, consider a “rigid” inflation-targeting central bank that interprets any deviation from its price stability target as an immediate call to action, independently of the nature and persistence of the underlying shock. And suppose this central bank is faced with a sequence of positive cost-push shocks that curb domestic price pressures for a prolonged period of time – for instance due to the gradual penetration of new technologies that boost productivity, or the emergence of new and cheaper sources of global production. The accelerating diffusion of the internet and related digital technologies in recent decades may provide an example of the former, while the emergence of China as a global manufacturing hub exemplifies the latter.<sup>13</sup>

If the central bank is too narrowly focused on achieving a specific inflation target over a specific period of time, it will aim to reinvigorate price dynamics by running a looser monetary policy than would otherwise have been the case. But with that response, it may reinforce the exuberance that is already mushrooming with rising economic optimism. In these conditions, an overly loose monetary policy would fuel the financial cycle, which in turn may encourage a build-up of imbalances in the financial industry characterised by excessive dependence on unstable short-term funding, high levels of leverage, weak underwriting standards, and poor risk measurement and risk management.<sup>14</sup>

This is more than just a hypothetical scenario: empirical evidence suggests that it has been the rule – rather than an exception – for stock market booms to coincide with atypically *low* inflation. The run-up to the dotcom bubble in the late 1990s, which dovetailed with the positive cost-push shocks described above, provides one particularly vivid example of this pattern.<sup>15</sup>

In such cases, a misguided monetary policy reaction amplifies the impact of the initial supply shock and turns it into a demand shock with long run implications for price stability when the cycle eventually turns.

### **The flexibility of existing monetary policy frameworks**

But these insights do not automatically lead to the conclusion that central banks must adjust their monetary policy frameworks.

This is because the representation of monetary policy as focusing on a short policy horizon and with little regard for broader financial cycles does not do justice to the strategies that many central banks follow today, and certainly not to the strategy of the ECB. In fact, our monetary policy framework is more flexible than the aforementioned scenario of a rigid inflation-targeter suggests. Our strategy includes important safeguards to prevent an overly narrow and zealous interpretation of price stability from becoming a source of financial

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<sup>12</sup> See for instance the 2015/16 BIS Annual Report.

<sup>13</sup> See Fahr, S., R. Motto, M. Rostagno, F. Smets and O. Tristani, “A monetary policy strategy in good and bad times: lessons from the recent past”, *Economic Policy*, Volume 28, Issue 74, 1 April 2013, pp. 243–288.

<sup>14</sup> De Groot, O., “The Risk Channel of Monetary Policy”, *International Journal of Central Banking*, Volume 10, No. 2, June 2014, pp. 115–159.

<sup>15</sup> L. Christiano, C. Ilut, R. Motto and M. Rostagno, “Monetary Policy and Stock Market Booms”, paper prepared for *Macroeconomic Challenges: the Decade Ahead*, A Symposium Sponsored by the Federal Reserve Bank of Kansas City Jackson Hole, Wyoming August 26 – 28, 2010.

instability. Indeed, it incorporated a “leaning-against-the-wind” approach even when the academic consensus pointed in a different direction.<sup>16</sup>

There are two elements to our monetary policy strategy that institutionalise this approach. The first is the flexible and shock-dependent medium-term horizon, which ensures that supply shocks do not automatically elicit a monetary policy response unless there is a danger that they become embedded in inflation expectations. The second is the monetary pillar, which alerts the Governing Council when trends in credit markets may presage emerging risks to financial stability – even when inflation is quiescent.<sup>17</sup>

Together, these elements coalesce into a leaning-against-the-wind orientation which helps us evaluate the impact of economic shocks over sufficiently long horizons and account for their implications for lower-frequency asset price cycles. Monetary analysis, in turn, informs us about the funding patterns that underlie these asset price cycles and alerts us, for instance, to situations in which a generalised upswing in asset prices is fuelled by excess creation of liquidity and over-extension of credit. Detecting and understanding this link helps the ECB form an opinion on whether observed financial market developments are morphing into an unsustainable bubble.<sup>18</sup>

As a consequence, if price and volume indicators of prevailing financing conditions were inappropriate to guarantee sustained macroeconomic and price stability, the ECB would change its policy stance whether or not current or projected inflation already signalled those risks.

This approach guided our monetary policy already prior to the crisis. In fact, buoyant money and credit growth were key factors that motivated the policy tightening cycle that began in 2005. Today our leaning-against-the-wind orientation clearly backs our prevailing accommodative monetary policy stance. The liquidity and demand support provided by monetary policy has countered the downturn and aided the reversal of the financial cycle, thus preventing it from morphing into a chronic credit crunch with persistent dangers for price stability.

Taken together, the ECB’s two pillar strategy thus features key elements that facilitate a leaning-against-the-wind approach.

### **Challenges and lessons from the crisis**

Nonetheless, the global financial crisis – which has hit also the euro area with full force and was followed by an exceptionally prolonged economic slump – illustrates that this approach was not sufficient to pre-empt major imbalances. Accordingly, we need to ask ourselves how we can further strengthen the resilience of the macroeconomic policy framework.

Also here, the “first line of defence” lies in the broader institutional and legal framework. In fact, the ease with which a central bank can operationalise a leaning-against-the-wind strategy is inevitably affected by the broader policy framework. In a weak macroeconomic framework, the central bank will not just have to “lean against the wind” – it will be forced to “lean against a storm” that will inevitably put strains on – and ultimately overburden – any type of monetary policy strategy. The euro area crisis, characterised by mutually reinforcing vulnerabilities in the sovereign space and the banking system – both of which were precipitated by a weak institutional framework – provides a vivid example of such scenario.

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<sup>16</sup> See Beyer, A. and L. Reichlin (Eds.) (2006), “The role of money – money and monetary policy in the 21st century”, *Fourth ECB Central Banking Conference*.

<sup>17</sup> See Issing, O., “Monetary and financial stability – is there a trade-off?”, Speech at Conference on “Monetary Stability and the Business Cycle”, Bank for International Settlements, Basel, 28–29 March 2003.

<sup>18</sup> See ECB Monthly Bulletin Article, April 2005, “Asset price bubbles and monetary policy”.

By contrast, a more effective first line of defence will support a leaning-against-the-wind approach, both: because other policy domains reinforce the thrust of monetary policy, and because any trade-offs that result are likely to be more favourable. In this context, it may be noted, for instance, that the notion that accommodative monetary policy sustains “zombie banks” is rarely heard in the US context, in view of the stronger institutions for resolving banks and resolving non-performing loans.

Overall, we are now seeing progress being made in the euro area and internationally that will improve the first line of defence going forward. The Basel III agenda has tackled several of the weaknesses of pre-crisis banking landscape, while countries have made important strides in terms of operationalising new macro-prudential instruments. Meanwhile, the euro area has moved ahead in its efforts to establish a banking union and the tools available to policymakers to clean up after crises are being progressively strengthened, although difficulties persist in reducing legacy non-performing loans on bank balance sheets. There is thus still work to be done, but the institutional environment has become more conducive to a leaning-against-the-wind strategy than before the crisis. The early indications already suggest it has increased the resilience of the financial sector to shocks.

Despite this improved first line of defence, implementing a leaning-against-the-wind approach will remain challenging though. It will require us to identify and model latent financial stability risks, as well as the potential future cost of letting such risks fester at a systemic level. As noted in the past, this task was hampered by crucial knowledge gaps as the common macroeconomic frameworks were not well designed to capture the interactions between financial and real variables.<sup>19</sup>

These knowledge gaps, in turn, led the economics profession to underestimate the potential cost that systemic financial crises may impose on broader macroeconomic prospects.

Also on this front, we have seen some progress in economic research, especially in integrating real-financial feedback loops into the standard toolkit for macroeconomic analysis, which has enhanced the operational feasibility of leaning-against-the-wind. This toolkit may help distinguish more clearly between benign and malign episodes of financial exuberance and divine better the appropriate monetary policy response. At the same time, the experience of the financial crisis and ensuing recession has shown that the costs generated by malign episodes are more substantial than we thought.

Our challenge going forward is therefore, in my view, to build on our improved monetary policy and regulatory frameworks and focus on their steadfast implementation, rather than to establish a lasting trade-off between financial stability and price stability in central banks’ objective functions.

Such a trade-off would not solve the implementation challenges of leaning-against-the-wind, while it may rekindle the deeper policy challenges that central banks encountered in the past when they sacrificed price stability for other policy concerns. Indeed, the lesson from the 1970s is that, if a central bank downgrades its inflation mandate to a point where inflation expectations become seriously de-anchored, sooner or later it will be called upon to assume full responsibility for bringing inflation back under control. At that point, inflation stabilisation and a re-anchoring of expectations may have to come at a very high cost in terms of output losses and financial stability risks.

## Conclusion

Let me summarise.

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<sup>19</sup> See ECB Monthly Bulletin Article, April 2005, “Asset price bubbles and monetary policy”.

Monetary policy has a powerful impact on the incentive structure of market participants and, via this channel, on the cycle in asset prices and monetary aggregates. Since this cycle is propagated via global financial markets, domestic monetary policy inevitably entails international spillovers.

Monetary policy geared towards domestic price stability generally supports financial stability. In the current situation, for instance, the ECB's continued monetary accommodation not only supports a return of inflation to levels closer to 2% but also aids balance sheet repair in the euro area and mitigates the risk of adverse spillovers to the financial systems in other economies.

An overly rigid interpretation of the price stability objective, however, may at times give rise to conflicts between price stability and financial stability. And a failure of major central banks to appropriately account for this risk in their monetary policy strategies can create new, or reinforce existing, financial vulnerabilities at global level.

Against this background, the ECB follows a flexible medium-term horizon and, as part of its two-pillar strategy, closely monitors the dynamics in money and credit which may act as signals for the build-up of financial imbalances. But in confronting such imbalances, other policy domains – including on the macroprudential and regulatory side – have to play their part to ensure stability in a context of sound macroeconomic performance.