

Peter Praet: Monetary policy in a low interest rate environment

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Accompanying [slides](#) of this speech.

salient feature of the economic environment in advanced economies has been the steady decline of short and long-term interest rates over several decades to the extremely low levels which currently prevail.¹ Since 1980, long-term interest rates have declined by about 860 basis points in the United States, 790 basis points in Germany and more than 1,200 basis points in France.

I am acutely aware that an environment of low interest rates poses considerable challenges for many of the business models operated by actuaries and other professionals. However, the similar behaviour of yields across different economic areas attests to the global nature of the economic and financial developments at work, as well as to the broad similarity of the methods adopted by monetary policymakers in advanced economies to respond to the adverse developments of the last ten years.

In my remarks today, I would like to outline the ECB's monetary policy response to the different phases of the crisis. Our monetary policy response has taken place in a low interest rate environment, which can be attributed to specific global and euro area factors, some of which are secular and some of which are a legacy of the financial crisis. In any case, the secular trends and structural forces – which, prior to the crisis, had pushed down long-term yields over a span of at least 30 years – made central banks' efforts to stabilise their economies when the crisis finally hit even more strenuous than they would have been otherwise, and required more innovative and bolder measures.

Nonetheless, the present environment of low interest rates need not become permanent as public policy can address some of the causes of the very low interest rates. While several of the secular factors are challenging for policy to reverse, others can be alleviated by effective and targeted policies that boost potential growth and, in the case of Europe, complete the euro area's institutional framework.

Monetary policy plays an important role by creating an environment which facilitates the necessary structural adjustments, even if in itself it cannot address structural aspects of the economy. Indeed, by laying the groundwork for a return of inflation to our objective, our monetary policy measures have been supporting economic activity and have alleviated damage to the economy's growth potential.

Our asset purchase programme (APP) has been the pivotal component of our strategy for countering and reversing the crisis. As you know, since the programme's inception in 2015, the Governing Council of the ECB has made net asset purchases under the APP conditional on progress towards a sustained adjustment in the path of inflation to levels below, but close to, 2% over the medium term. We have set forth criteria to measure the headway we have made towards meeting this stated objective since the programme was launched. Next week, the Governing Council will have to assess whether progress so far has been sufficient to warrant a gradual unwinding of our net purchases. In making its assessment, it will consider the underlying strength of the euro area economy and the pass-through to wage and price formations.

Monetary policy response to the crisis

In the years preceding the onset of the global financial crisis in 2008, over-optimistic growth expectations had taken hold in a number of advanced economies. Although productivity growth

had been slowing since the mid-1990s, agents overestimated future income growth and borrowed against it, accumulating excessive levels of debt. At the same time, poor risk management, low capital and liquidity, inadequate corporate governance, and weak supervision and regulation encouraged financial leverage, which led to the build-up of vulnerabilities. This was particularly acute in the United States, where there was a rapid expansion in the development of complex financial securities, which later proved to entail substantial risks.

This oversight can to some extent be explained by the fact that, in the decade leading up to the crisis, the overall macroeconomic environment had been very stable, with some observers even concluding that monetary policy had tamed the business cycle once and for all. This was also the period when the perceived benefits of globalisation reached their high-water mark and, for euro area countries, when Monetary Union came into being, potentially paving the way for the macroeconomic and microeconomic benefits of the European Single Market to be fully unleashed.

When the cycle finally turned in 2008, it set in train a turbulent decade of deleveraging and de-risking, consisting of a number of different phases.

The first phase was similar across advanced economies. It was characterised by the financial panic and abrupt liquidity crisis triggered by the collapse of Lehman Brothers in September 2008. Banks became uncertain about the underlying health of other banks, bringing market funding to a sudden stop. Globally, central banks intervened forcefully and in a coordinated manner so as to provide essential liquidity to the banking sector. During this first phase of the crisis, the ECB lowered its main refinancing rate to the then record low of 1% in May 2009, while letting the pivotal overnight money market interest rate drift down to the floor of the interest rate corridor – a level much lower than 1%. To facilitate banks' borrowing of central bank funds, the ECB expanded the range of eligible collateral for refinancing operations and provided liquidity elastically to the banking sector. The easing impact of our liberal liquidity injections was enhanced by increasing the maturity of liquidity provisions. This phase of the crisis deeply affected euro area banks because, unlike in other jurisdictions, no institutional frameworks were available to swiftly address problems.

Banks' needs for fresh resources put a growing strain on the public finances of those countries whose banking sectors had been allowed to grow to outsized proportions relative to the underlying economy. The contagion from banks to their sovereigns – coupled with growing concerns about the sustainability of high-debt countries – paved the way for the second phase of the crisis: the sovereign debt crisis. The debt crisis was fuelled by the vicious loop between banks and sovereigns. While the contingent liabilities associated with the weak state of the national banks had undermined the credit standing of governments, the attendant loss of value of the bonds issued by these governments contributed to undermining the health of the banks even further.

Financial markets then began to fragment along national fault lines, eventually preventing entire banking systems from accessing market funding. Lack of liquidity, coupled with the erosion of capital due to losses on sovereign exposures, precipitated a renewed credit crunch.

A new round of the vicious cycle with negative feedback loops then began. The tightening in domestic credit conditions aggravated the ongoing recession, eroded the quality of banks' loan portfolios and further weakened banks' capital positions, which in turn made the bailing-out of the banking system by the government even more likely and thus pushed up sovereign borrowing costs even higher.

Confronted with these events, many investors started to think that this negative spiral might ultimately lead the affected countries to exit the euro area. As a result, redenomination risk soared and sovereign spreads widened.

This led to a serious disruption of the monetary policy transmission mechanism and prevented our accommodative policy stance from reaching businesses and households. As the affected economies represented a third of euro area GDP, the contagion became an acute threat to price stability in the euro area.

The ECB monetary policy response to these developments was twofold. First, to ensure that banks had access to longer-term funding, two three-year refinancing operations were undertaken at the end of 2011 and the beginning of 2012. Second, in summer 2012, the ECB's announcement of Outright Monetary Transactions served as a powerful circuit breaker of the ongoing downward spiral. Nonetheless, the sovereign debt crisis left a damaging legacy, which led the way for the third phase of the crisis.

As the euro area entered a prolonged slump, banks in many parts of the euro area – particularly in vulnerable countries – embarked on a drawn-out process of deleveraging, which mainly involved reducing lending to the real economy. Towards end-2013, loans to the private sector were falling by more than 2% per year and a credit crunch loomed. Moreover, by mid-2014, the economic recovery was losing momentum and the weakness in aggregate demand was starting to depress inflation expectations. The sharp fall-off in oil prices that began in the late summer of that year exerted further disinflationary pressure.

The Governing Council had to provide additional policy accommodation to restore price stability. But it faced the challenge that interest rates were already at low levels, limiting the room available for further cuts of its policy rates – the ECB deposit facility had already been brought down to zero in July 2012.

But why were interest rates across the whole spectrum of maturities so low in the first place? Why was the buffer for further monetary policy easing so limited? One way to answer this is by taking a longer-term perspective and disentangling nominal long-term interest rates into three constituent parts: (i) expected average inflation², (ii) expected average real rate over the lifespan of a bond, (iii) real term premia, representing the compensation investors require for holding onto a long-term asset. Although data limitations make it hard to derive empirical estimates of each element of this decomposition going far back in the past, what transpires from this analysis is that all components had had a decades-long history of consistent decline.³

Taking a historical perspective, long-term inflation expectations had declined steadily since the beginning of the 1980s to stabilise at levels around 2% in the late 1990s. The trend decline and subsequent stabilisation reflected the success of central banks' monetary policy in regaining control of inflation and in establishing strong credibility. However, in mid-2014 these benign developments were overshadowed by a decline in long-term inflation expectations, which, from a central bank's perspective, was highly concerning⁴. Turning to the real term premia, available since 2005 when inflation swaps were introduced in the euro area, we observe a significant decline, mainly on account of the imbalance between the reduced supply of, and the increased demand for, safe assets at the global level, which has been exacerbated by the global financial crisis.

The final component is the expected average real rate. Focusing on its value over the longer run, it is found to have steadily declined due to structural forces on the one hand and to cyclical factors on the other. Structural factors include the slowdown in productivity, unfavourable demographic developments and the increase in savings. The intuition is that these factors drive investment, which in turn determines the demand for loanable funds. In the euro area and other major advanced economies, productivity and population growth, which are also the drivers of potential GDP growth, have been declining for decades. The intersection point of the desired demand for "loanable funds" with the level of savings constitutes the interest rate.

In addition to these secular forces, more cyclical factors linked to the financial crisis have been a

drag on real interest rates. In particular, the euro area has faced a massive debt overhang in the public and private sector, resulting in a severe “balance sheet recession” and a tightening of credit conditions. This has required a substantial amount of deleveraging, which in turn reduced investment, prolonged the downturn and weighed on the real interest rate.

Overall, the pre-crisis slowdown in potential growth, coupled with the negative effects of the crisis on investment and private sector balance sheets, has resulted in an imbalance between saving and investment, and largely accounts for the decline in the real interest rate to very low levels.

From a monetary policy perspective, this means that the equilibrium real interest rate – defined as the value of the short-term real interest rate consistent with the economy operating at its potential (or sustainable) level and inflation at its objective – has declined.⁵

Faced with disinflationary shocks, a central bank wishing to preserve price stability when the equilibrium real rate has declined has to steer interest rates to levels below the equilibrium real rate prevailing in the long run. Yet, while the equilibrium real rate can be very negative, there is a lower bound to the nominal interest rate.

In the context of the disinflationary pressures we faced in 2014 and 2015, this implied that the room for the additional reduction of short-term interest rates was insufficient to generate the necessary stimulus, given the low level of the equilibrium rate.

To address this challenge, the ECB sought to affect the whole range of interest rates that are relevant for private sector financing conditions. This strategy constitutes of three elements.

The first was the launch of a negative interest rate policy, which entailed a decrease in the deposit facility rate to -0.1% in June 2014 and to -0.2% in September 2014. This first wave of cuts into negative territory provided additional stimulus as it extended the scope of conventional monetary policy. The deposit facility rate was subsequently brought to -0.4% in two further rate reductions in December 2015 and March 2016.

The second was the introduction of a credit easing package, which included a third covered bond purchase programme and an asset-backed securities purchase programme. This aimed to improve the pass-through for each euro of liquidity injected into the financial system to private sector borrowing costs and to reinforce the accommodative monetary policy stance. The package also contained targeted longer-term refinancing operations, which were specifically designed to support bank lending to the private sector.

The third element of the strategy was the addition of a public sector purchase programme to the ECB’s asset purchase programme (APP). These measures helped to compress the risk premia all along the yield curve. Shortly after the public sector purchase programme was launched, the Governing Council embarked on a second wave of cuts to the deposit facility rate, which empowered the portfolio rebalancing channel of the APP as it incentivised banks to invest central bank reserves in higher yielding assets.

These instruments were complemented by the use of forward guidance, through which we started to communicate our expectations of future policy, along with the conditions that would warrant a change in the policy stance.

The economic impact of monetary policy measures

Our monetary policy strategy has borne fruit, with 2017 marking the euro area’s fifth consecutive year of positive growth. Recently, the pace of economic growth has moderated somewhat, which in part relates to temporary factors and possibly some pull-back from last year’s strong growth. In addition, concerns about trade protectionism may have dampened business sentiment and

expectations. The recent slowdown could also be a sign that supply-side constraints are becoming increasingly binding. Nonetheless, the underlying strength of the euro area economy persists, with growth above potential and sentiment indicators still well above long-term averages for most sectors and countries.

The underlying momentum is evidenced in the labour market, with around 8 million more people employed in the euro area since the trough in mid-2013. This implies that all of the job losses recorded during the crisis have been recovered. Also, the unemployment rate is at its lowest level for nearly nine years, despite an increase in the labour force of more than 2%.

In terms of demand components, private consumption – one of the main drivers of the euro area recovery since 2013 – is being supported by the steady growth in households' disposable income, higher asset valuations and by an accommodative monetary policy that contributed to a lower debt burden for borrowers. There also appears to be scope for further private consumption growth as anticipated improvements in the labour market should keep consumer confidence high.

At the same time, the investment outlook continues to strengthen and is supported by an ongoing need to modernise the capital stock after years of subdued investment, as well as by very favourable financing conditions, an improvement in profitability and solid demand. The European Commission's biannual investment survey, released on 27 April, shows expectations of a strong increase in real industrial investment of 7% in 2018.

An important factor supporting the good domestic demand performance is the favourable financing conditions for firms and households, which are still influenced by the policy measures that have been announced since June 2014. Bank lending rates to euro area non-financial corporations (NFCs) have fallen by around 120 basis points since June 2014 and to households by around 110 basis points. At the same time, the heterogeneity of lending rates across countries has also fallen sharply, with the pass-through of our measures becoming more even. Loans to NFCs have continued to grow and reached an annual growth rate of 3.3% in April 2017.

The key question for monetary policy is: will growth remain sufficiently strong for the ongoing pressure on resource utilisation to continue to nudge inflation along a pathway that rises fast enough towards our objective?

The main intersection between growth and inflation formation is the labour market. A look at the sectoral make-up of the most recent developments in the job market is encouraging. PMI survey indicators signal continued employment creation ahead across sectors as well as across major countries in the euro area. Measures of labour market tightness, such as the vacancies-to-unemployment ratio or survey indicators of labour shortages, show an upward trend for the euro area that has steepened over the past year. Measures of slack, such as the U6 measure of unemployment, also show improvement.⁶

At the same time, there is growing evidence that labour market tightness is translating into a stronger pick-up in wage growth. Annual growth in negotiated wages in the euro area increased to 1.9% in the first quarter of 2018, from 1.6% in the fourth quarter of 2017. The upsurge was primarily due to Germany, where negotiated wages increased by 2.3% in first quarter of 2018 up from 1.9% in the fourth quarter of 2017, driven by major wage agreements in the German metal and engineering industry, the public sector and the construction sector.

Rising wage pressures are gradually starting to be reflected in aggregate measures of compensation per employee. These, in turn, feed into producer prices for domestic sales of non-food consumer goods.

The Governing Council has three criteria for assessing whether there is a sustained adjustment in the path of inflation towards levels below, but close to, 2% over the medium term: first, the

convergence of the projected headline inflation to our medium-term aim; second, confidence in the realisation of this convergence path; and third, the resilience of inflation convergence even after the end of our net asset purchases.

Signals showing the convergence of inflation towards our aim have been improving, and both the underlying strength in the euro area economy and the fact that such strength is increasingly affecting wage formation supports our confidence that inflation will reach a level of below, but close to, 2% over the medium term. As for our third criterion, resilience, waning market expectations of sizeable further expansions of our programme have been accompanied by inflation expectations that are increasingly consistent with our aim.

At the end, any decision concerning the termination or further extension of our net purchases will hinge on the ultimate judgement of the Governing Council. Once the Governing Council judges that the three criteria have been met, net asset purchases will expire, in line with our guidance. From that point in time, inflation developments will remain conditional on reinvestments continuing for an extended period of time and on policy rates remaining at their present levels well past the end of our net asset purchases. Our forward guidance on policy rates will then have to be further specified and calibrated as appropriate for inflation to remain on the sustained adjustment path to levels below, but close to, 2% over the medium term. The stock of long-duration assets held in our portfolio will continue to put downward pressure on longer-term interest rates well beyond the end of our net purchases.

Conclusion

Low interest rates fundamentally reflect the consequences of unfavourable secular trends, combined with the fall-out from the global financial crisis and euro area sovereign debt crisis. As a result, the equilibrium real interest rate has declined to very low levels, although the precise level is very uncertain.

Confronted with a declining equilibrium interest rate and the effective lower bound on policy rates, we had to resort to unconventional monetary policy measures in order to provide the necessary accommodation to support domestic demand, thwart the deflationary risks which were emerging in 2014 and prepare the way for inflation to return to our objective.

However, monetary policy cannot increase the long-term real interest rate. This requires policies that address the factors depressing the real interest rate: increasing potential growth and completing the euro area's institutional set-up. Such measures would support investment and rebalance saving and investment, which in turn would increase the equilibrium real interest rate and support the normalisation of interest rates.

¹ I would like to thank John Hutchinson for his support in preparing this speech.

² Expected inflation can be further decomposed into “risk neutral” inflation expectations and inflation risk premia.

³ For the United States such analysis can be undertaken from the late 1990s when Treasury Inflation-Protected Securities became available, while inflation swaps started being traded quite a bit later. See, for example, Abrahams, M., Adrian, T., Crump, R. K., Moench, E. and Yu, R., (2016), “Decomposing real and nominal yield curves”, *Journal of Monetary Economics*, Volume 84, December, pp. 182–200. In the euro area, these decompositions can also be undertaken using model-based analysis, albeit only over a shorter time period due to the later availability of suitable inflation-linked instruments.

⁴ Whereas the inflation risk premia and the real term premia, taken together, display a trend decline over recent decades, the analysis of their individual dynamics is subject to data limitations as estimates are based on inflation-linked bonds or swaps which have only recently become more widespread. But it is likely that the inflation risk premia declined significantly in the 1980s and 1990s alongside the decline in inflation expectations, with investors accepting lower compensation for bearing inflation risk. The decline in inflation risk premia from mid-2014, by contrast, pointed to the increased prominence that market participants assigned to

lower than expected inflation outcomes around that time.

- 5 More than a century ago Knut Wicksell (1898) described the natural rate as: “There is a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise or to lower them. This is necessarily the same as the rate of interest which would be determined by supply and demand if no use were made of money and all lending were effected in the form of capital goods”.
- 6 The “U6 measure” captures unemployment, underemployment (i.e. workers who would like to work more hours) and marginal attachment, which refers to those members of the workforce who are not seeking employment very actively, because, for example, they are not available to start a new job at short notice or have been discouraged by a fruitless search for work.