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**Exit strategies: What should the ECB
“new normal” look like?
- Roman HORVATH, CASE -**

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In-depth analysis for the ECON Committee





DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Design and sequencing of exit from non-standard monetary policy measures: What should the ECB “new normal” look like?

IN-DEPTH ANALYSIS

Abstract

This paper discusses 1) the design and sequencing of exiting from unconventional monetary policy measures, which the ECB has undertaken to achieve price stability and support the euro area economy and 2) the new normal—namely, how the future operational framework of the ECB should look and to what extent it will resemble the pre-crisis state of affairs. We argue that the exit from unconventional measures should be gradual and accompanied by transparent communication, and that the exit should precede interest rate hikes. The new normal for the ECB is likely to be different from what we know from pre-crisis times (prior to 2008). It is likely to be characterised by the continuation of an extended balance sheet, more active communication measures towards the public, and a greater emphasis on financial stability issues.

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LIST OF ABBREVIATIONS

CEPR Centre for Economic and Policy Research

DSGE Dynamic Stochastic General Equilibrium

ECB European Central Bank

GDP Gross Domestic Product

HICP Harmonised Index of Consumer Prices

NBER National Bureau for Economic Research

US United States

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EXECUTIVE SUMMARY

- A number of non-standard (unconventional) monetary policy measures have been introduced to support the euro area economy during the crisis. While originally planned to be temporary, these non-standard monetary policy measures have been in place for approximately a decade. The non-standard measures have been effective, but also contain risks.
- Economic activity in the euro area is improving. Headline, core, and expected inflation are firmly in positive numbers. The euro area unemployment rate has fallen into single digit numbers. At the same time, the ECB's monetary policy stance can be regarded as largely accommodative.
- The precondition to phasing out non-standard monetary policy measures requires inflation to be self-sustained, without monetary stimulus. Core inflation rather than headline inflation can provide guidance in this case.
- An overly cautious approach towards the exit from non-standard monetary policy measures contains risks as financial institutions are likely to be involved in the search for yield more intensively for an extended period of time. On the other hand, exiting too early from unconventional monetary policy measures creates the risk of undermining the recovery in the euro area economy.
- The phasing out of unconventional monetary policy measures (asset purchases) must precede interest rate hikes, otherwise the ECB would send mixed signals to the markets. Before phasing out, the ECB should start communicating that monetary policy risks are largely balanced.
- To avoid disruptions in financial markets, the ECB's asset purchases should decrease gradually and be well communicated. Discussions regarding the increase of the deposit rate into non-negative territory should be initiated.
- Once asset purchases are stopped, communication regarding the future size of the balance sheet and, more generally, the new normal, should be initiated to guide the markets. Some shrinkage of the balance sheet is desirable because it increases the room for monetary policy to manoeuvre in the future. The strategies regarding the shrinkage of balance sheets have both pros and cons. Irrespective of the strategy of shrinking the balance sheet (active sales versus holding bonds until maturity), the balance sheet is likely to remain much larger than in normal circumstances in the coming years. An additional argument for the extended balance sheet is that a central bank might find it reasonable to operate at longer horizons of the yield curve via purchases and sales of long-term bonds.
- According to a survey of central bankers by Blinder et al. (2017), more active central bank communication is expected in the future. However, there is an optimal level of communication. Communication on financial stability issues (and certain unconventional measures) can be delicate, especially when financial markets are less stable. In an environment of a flattening Phillips curve, inflation is largely driven by inflation expectations (and less so by output and unemployment). Once the asset purchases programme is over and monetary policy rates are not increased into positive territory, central bank communication is without real backing and may risk losing its strength.
- Monetary policy normalisation means that monetary policy rates are increased closer to the natural rate of interest. The current estimates of the natural rate of interest based on various New Keynesian models can be biased downwards because they

ignore financial cycles or use inappropriate interest rates. More evidence on the natural rate of interest is needed.

- Some proposals that central banks should increase the inflation target to 4% appeared. The proposals are motivated by the argument that a zero lower bound is more likely to occur in the future. The 2% inflation target—which is typical for many central banks in developed countries—is too low, inhibiting their room to manoeuvre with short-term interest rates. However, this proposal carries the risk that the inflation target will be missed more often because of increased inflation volatility and less anchored inflation expectations. In addition, trying to achieve a 4% inflation target in case of low trend inflation would require very loose conventional monetary policy, possibly accompanied with unconventional measures.
- The ECB’s definition of price stability—a below but close to 2% annual inflation rate in the medium term—could be made more accurate and more in line with the practice of other central banks (2% target with ± 1 percentage point range). The term “below” contains ambiguity. The definition also implies that deviations from the (unobserved) target are not treated symmetrically. The asymmetric treatment of the inflation target makes sense when a new monetary policy regime is introduced and needs to build credibility. The ECB is approaching its 20th anniversary; it might be worthwhile to rethink its definition of price stability towards one that is more symmetric and less ambiguous.

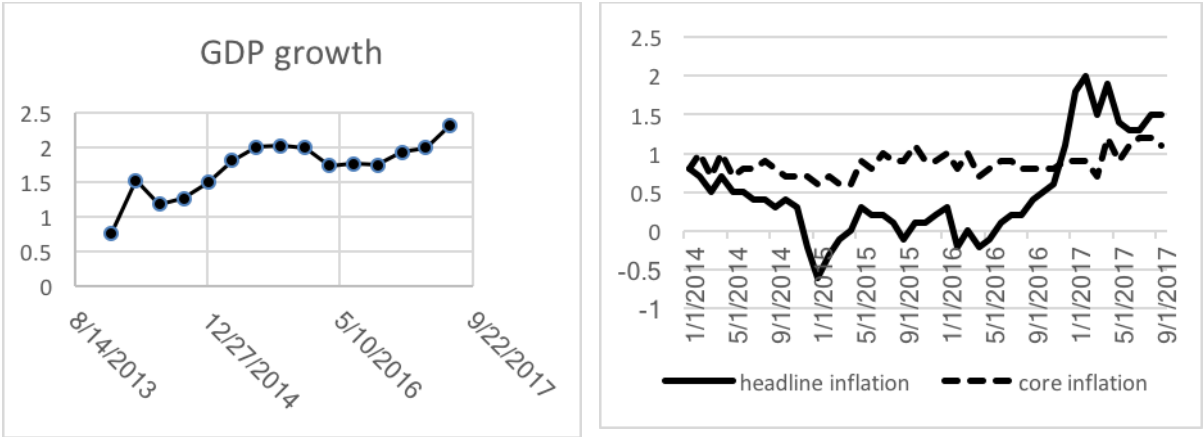
1. INTRODUCTION

Monetary policy rates have fallen to historically low levels in the euro area in response to the global financial crisis. Nevertheless, the low interest rate environment, with interest rates close to zero, has not been sufficient to fully restore macroeconomic stability in the euro area.

As a consequence, this accommodative conventional monetary policy has been accompanied by a number of non-standard (unconventional) monetary policy measures such as forward guidance, asset purchases, and negative rates in an effort to further support the euro area economy. While originally planned to be temporary, non-standard monetary policy measures have been in place for approximately a decade. As a result, these non-standard measures have, in some sense, become the new standard.

While an extensive body of empirical research (conducted both within as well as outside of the ECB¹) shows that the non-standard measures have been effective in reducing the imminent vulnerabilities in euro area financial markets and the real economy (see Gambacorta et al., 2014 and Gibson et al., 2016, among many others), they contain non-negligible risks, typically of a long-term character. Horvath (2017) surveys these risks and notes that non-standard monetary policies implemented for an extended period of time (i.e. in the period which is not fully characterised as an imminent high stress period) increase risks in various segments of the economy. The ultra-low interest rate environment may fuel housing price increases and make it difficult for financial institutions—especially insurance companies and pension funds—to maintain stability. The ultra-low interest rate environment may also adversely affect bank profitability in a non-linear manner (i.e. bank profitability may fall relatively rapidly once the higher-return assets from the past expire and are replaced by lower-return assets). It has also been argued that non-standard monetary policy measures contributed to the quantity rather than quality of credit (Acharya et al., 2016), therefore, undermining the necessary creative destruction in the economy. Finally, there is a discussion whether non-standard monetary policy measures have promoted greater wealth inequality (Domanski et al., 2016).

Figure 1: GDP Growth, Headline Inflation, and Core Inflation in the Euro Area



Source: ECB – Statistical Data Warehouse. GDP in prices of the previous year. Headline inflation is defined as the annual rate of change in HICP. Core inflation excludes energy and food from headline inflation.

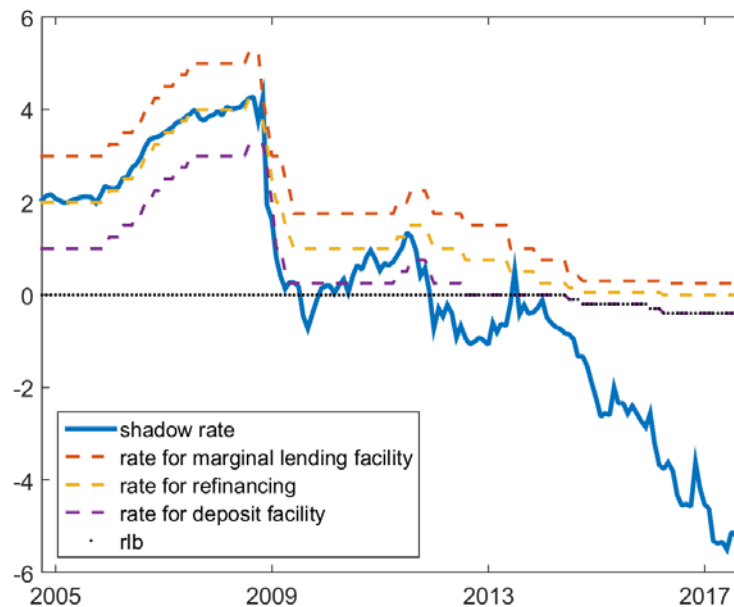
Overall, it is clear that a discussion on the benefits and costs of non-standard measures is needed. And, more specifically, discussions regarding the appropriate strategy on how to

¹ Micossi (2015) provides a comprehensive overview of the ECB policies in 2002-2015.

exit from non-standard monetary policy measures are needed as well. This is because economic activity in the euro area is improving and inflation (although still somewhat subdued and below but not too close to 2%) is heading closer to what the ECB considers in line with their definition of price stability. Core inflation is also firmly in positive numbers and, according to a survey of professional forecasters, the expected headline inflation in 2018 and 2019 is 1.4% and 1.6% (with a rather small standard deviation of 0.2), respectively, which is not far from what the ECB can supposedly consider as price stability. In addition, the euro area unemployment rate has fallen into single digit numbers. We present the euro area GDP growth, headline inflation, and core inflation in Figure 1.

At the same time, the ECB’s monetary policy stance can be regarded as largely accommodative as the estimates of the shadow policy rate suggest. The shadow policy rate largely coincides with the monetary policy rate when the rate is positive, but it is not restricted by the zero lower bound and, therefore, it is often used as indicator of monetary policy stance in ultra-low or negative interest rate environments. We present the shadow policy rate estimates by Wu and Xia (2017) in Figure 2 and observe the shadow rate falling quite below zero following the implementation of the ECB’s asset purchase programme. Clearly, the estimates of the shadow policy rates are surrounded by a certain degree of uncertainty, and different methods of estimating shadow policy rates can provide somewhat different estimates, but they would have difficulty to dub the current ECB’s monetary policy stance as anything other than accommodative.

Figure 2: Shadow Policy Rate Estimates in the Euro Area



Source: Wu and Xia (2017).

An important question also arises in terms of what should be the new normal for the ECB once the ECB exits from unconventional monetary policy measures and starts to increase its monetary policy rate to normal levels. Should the new normal be identical to the pre-crisis normal or should it change? And, if it should change, then how?

This paper first discusses the design and sequencing of exiting from unconventional monetary policy measures and, second, it discusses the main characteristics of the likely new normal for the ECB.

2. PHASING OUT UNCONVENTIONAL MONETARY POLICY MEASURES

The crucial precondition to phasing out non-standard monetary policy measures is that inflation must be self-sustained—it must remain in positive numbers (or ideally close to 2%) without (substantial) monetary stimulus. However, the ECB should place an emphasis on core inflation rather than headline inflation. Headline inflation includes, for example, oil prices, which are given exogenously, and the ECB should not react to changes in oil prices directly (or to supply side shocks, more generally), but only to the second-round effects of these changes.

An overly cautious approach towards an exit from non-standard monetary policy measures contains risks as financial institutions are likely to be involved in the search for yield more intensively for an extended period of time. On the other hand, exiting from unconventional monetary policy measures too early creates the risk of undermining the recovery in the euro area economy.

We provide a schematic overview of the ECB's possible path to monetary policy normalisation in Table 1 (note that we focus on the asset purchases programme among unconventional measures because we consider this programme dominant, see Belke (2016) for a discussion regarding other unconventional measures). We divide this path into five relatively distinct periods. We argue that the phasing out of unconventional monetary policy measures must precede interest rate hikes, otherwise the ECB would send mixed signals to the markets. This is because having unconventional monetary policy measures in place suggests an accommodative monetary policy stance, while interest rate hikes suggest monetary tightening. An interest rate hike would also distort motivations in financial markets by remunerating excess liquidity even more. Therefore, interest rate hikes should not come first. See Belke (2016) for additional arguments why the phasing out of unconventional monetary policy measures must precede the normalisation of monetary policy rates.

Table 1: Schematic Overview of the ECB's Monetary Policy Normalisation

	Period 1 →	Period 2 →	Period 3 →	Period 4 →	Period 5
	Build up	Tapering	No purchases	Policy rate rises	New normal
Balance sheet expansion	€60 billion purchases each month	Purchases gradually decrease to €0	No purchases	No purchases	Bonds held to maturity, bonds expire
Balance sheet size	Balance sheet expansion	Slower balance sheet expansion	Balance sheet constant	Balance sheet constant	Balance sheet shrinks
Policy rate	0%	0%	0%	Positive rate	Positive rate
Communication	Signal the risks are balanced and tapering ahead	Communicate the pace of tapering and date of exit	Communicate future course of monetary policy	Communicate about shrinking balance sheet	Back to normal communication?
Negative deposit rate	Depending on "hawkishness" to be removed between Period 2 and Period 3				

Source: Adapted from Elbourne and Smid (2017) and Itaú BBA (2017) and expanded.

The first period (Period 1 in Table 1) is characterised by the asset purchase programme being in place. As a result, the balance sheet for the Eurosystem expands and the policy

rate is still approximately zero. This is where the ECB is situated now (as of October–November 2017), with €60 billion asset purchases each month and with an October 2017 decision to reduce these purchases to €30 billion each month starting from January 2018. To proceed to Period 2, the ECB should start communicating that monetary policy risks are largely balanced. Therefore, neither downward nor upward risks to monetary policy prevail. Downward risks to monetary policy would suggest that the euro area is not ready for tapering yet, while upward risks would suggest that tapering comes too late.

Period 2 is characterised by tapering—the ECB’s asset purchases gradually decrease from the current €60 billion purchases each month towards €0. To avoid disruptions in financial markets given the uncertainty about the size of the unconventional monetary policy effect on the economy and financial markets, asset purchases should decrease gradually and be well communicated. The central bank should communicate the pace of tapering and, later, the likely date of exit (i.e. no asset purchases). Importantly, tapering should be made conditional on euro area economic conditions (even though one may argue that this is not sufficiently clear communication). In the case of a deterioration of economic conditions, the tapering should be stopped or even reversed. Some proposals have appeared that tapering may also progress based on the conditions in individual euro area countries, with the pace of tapering being slower in countries with weaker economic or financial fundamentals (Moghadam, 2017). But it does not seem that these proposals would receive support.

Period 3 is characterised by no ECB asset purchases, and the deposit rate, which is currently at -0.40%, should be gradually increased to zero. It is vital to note that “hawkish” Governing Council Members may initiate discussions regarding the gradual increase of the deposit rate prior to Period 3.

Monetary policy hikes characterise Period 4, and the central bank communicates the future shrinkage of the balance sheet once bonds held to maturity start to expire. The central bank may also initiate discussions on the new normal—for example, on the natural rate of interest to prevail in future.

Period 5 is characterised by policy rates being well above zero and the shrinkage of the balance sheet, as the bonds held to maturity will expire (which is to take several years). Elbourne and Smid (2017) find some shrinkage of the balance sheet desirable because it increases the room for monetary policy to manoeuvre in the future. Even though holding bonds until maturity provides predictability for financial markets and avoids the difficult decision of when (and at what amount) to sell the bonds, the drawback of the strategy of holding bonds until maturity is that impulses induced by the expiration of these bonds may not necessarily be in harmony with conventional monetary policy strategy. Or, as Turner (2015) puts it, the strategy of allowing bonds simply to mature is not policy neutral and a shrinkage of the balance sheet would depend on past purchases rather than current economic conditions. Blinder (2013) adds that balance sheets are unlikely to shrink to pre-crisis levels, as central banks might find it reasonable to operate at longer horizons of the yield curve. Quint and Rabanal (2017) develop a non-linear DSGE model with a banking sector for the US economy and find that the benefits of using unconventional monetary policy in non-crisis times can be substantial. Irrespective of the strategy of shrinking the balance sheet (active sales versus holding bonds until maturity), the balance sheet is likely to remain much larger than in normal circumstances in the coming years.

The shrinking of the balance sheet does not come without risks. Andrade et al. (2017) show that announcements of government bond purchases have contributed to lower long-term interest rates. Even though this evidence is not fully comparable with the opposite scenario of government bond sales or bonds maturing on the central bank balance sheet, the risk of higher long-term interest rates is still present. Higher long-term interest rates are likely to have negative fiscal effects in the euro area.

In the following section, we discuss new normal strategies related to winding down balance sheets and to what extent such reductions of balance sheets are desirable.

3. THE NEW NORMAL – BROADENING CENTRAL BANK MANDATES

The return to pre-crisis central banking would have been ideal from the perspective of avoiding uncharted waters. Pre-crisis central banking, in general, was largely characterised by a strong emphasis on inflation targeting—namely, a credible commitment towards price stability. Inflation targets were aimed to be achieved using short-term interest rate management coupled with transparent communication regarding monetary policy plans (see Blinder, 2013, for a survey on pre-crisis central banking).

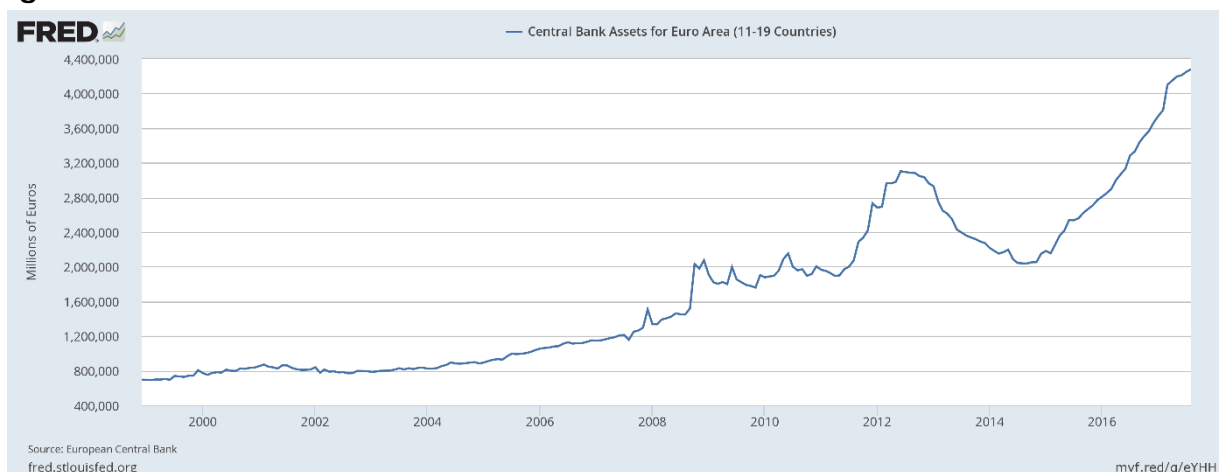
The orientation towards price stability—in some form of explicit or implicit inflation targeting—is likely to remain the main objective of central banks, including the ECB. In other words, the main objective of delivering price stability, supported by transparent communication, the forward-looking analytical assessment of risks, and a medium-term orientation are likely to remain fundamentally unchanged. However, what is likely to change is the way that central banks achieve the ultimate objective of price stability. An additional challenge to the new normal will be a greater emphasis on promoting financial stability, which may have certain implications for monetary policy and achieving price stability (Gertler and Hofmann, 2016).

Therefore, it is unlikely that central banks, including the ECB, will fully return to pre-crisis standards. It is reasonable to assume that central bank mandates will broaden, and the crucial question is to what degree. Even once the ECB fully exits from its non-standard measures, a number of challenges will remain. Let me discuss these challenges one after the other below and include two additional boxes at the end of this section to highlight some relevant aspects for the new normal.

3.1. The size of balance sheets

Following the implementation of various balance sheet policies (such as the ECB’s asset purchase programme), the balance sheets of many central banks rose enormously during the crisis. For example, central bank assets for the euro area (Eurosystem) nearly quadrupled between 2007 and 2017, as Figure 3 documents. Is it possible to reduce the size of the balance sheet back to pre-crisis levels and, importantly, should the ECB do it?

Figure 3: Central Bank Assets for the Euro Area



Source: ECB Statistical Data Warehouse and fred.stlouisfed.org.

Central banks have traditionally been limiting their actions to setting the short-term interest rate. Short-term interest rates, in general, require a transmission mechanism in order to work through into the economy. Changes in short-term rates are typically

transmitted via the expectation mechanism into long(er)-term interest rates, which are dominant for household and corporate investment decisions, such as taking a mortgage or building a new factory. Typically, unless interest rates are close to zero or at the zero lower bound, short-term interest rate management works sufficiently and short-term rates are reflected into long-term rates. If the transmission mechanism operates well, there is little incentive for a central bank to retain (long-term) government and corporate bonds in its portfolio or try to directly affect long-term interest rates by using these bonds.

However, if the prevailing belief is that encountering the zero lower bound will be more likely in future than it used to be, there is a rationale for financial assets such as sovereign debt or mortgage-backed securities to remain present in the balance sheet of central banks, as Blinder (2013) argues. The zero lower bound can be encountered more often because of a low global inflation environment. These financial assets would then be instrumental for a central bank to operate at longer horizons of the yield curve in order to spur the economy at the zero lower bound when short-term interest rate management would largely be impossible.

Why may a low global inflation environment prevail in the near future? There are two main factors. First, technological progress, accompanied with greater automation and robotisation, will likely to reduce the demand for workers (at least temporarily) and, therefore, provide a hindrance for wage growth. Second, population ageing in developed countries creates a class of net savers with fewer opportunities to deploy their savings and insufficient investment opportunities. This depresses economic activity and, ultimately, inflation via too low real interest rates causing monetary policy to encounter the zero lower bound environment more frequently (see, for example, Eichengreen, 2015).

However, a sizeable balance sheet comprised of long-term government bonds and private securities does not come without risk. The risks can be both of an economic as well as a political character.

Questions regarding the distributional effects of monetary policy emerge when central banks buy and sell private securities. Securities are more likely to be emitted by larger firms. As a result, it has been argued that larger firms rather than small and medium enterprises may benefit from the ECB's Corporate Sector Purchase Programme (Fiedler et al., 2017).

Regarding government bonds, the distinction between monetary policy and fiscal policy becomes somewhat blurred and may give the government signal that monetary policy is willing to support debt monetisation (Mishkin, 2013).

In addition, Turner (2015) notes that: *"If central banks had already held 30% of outstanding government debt in 2008, would they have got away with purchasing a further 30% during the crisis?"* Therefore, some reduction of the balance sheet may allow for a central bank to create room to react to unexpected future crises.

3.2. ECB communication

Communication regarding conventional monetary policy has already been largely transparent prior to the crisis, and according to an empirical assessment of monetary policy transparency, the ECB scored among the top transparent central banks in the world (Dincer and Eichengreen, 2014). During the crisis, the ECB gained experience communicating unconventional policies and, therefore, had more experience to understand the market reaction to a broader set of communication events (see Coenen et al., 2017, for a comprehensive analysis of the effects of ECB communication during the crisis).

It has been shown that central bank communication is a vital element for guiding markets and has effects on the real economy (Hansen and McMahon, 2016). For example, Bennani

et al. (2017) show that ECB communication helps predict the future course of its monetary policy. However, when they examine the details, they find that, among all communication events, it is the communication regarding non-standard monetary policy measures (as well as communications by the ECB President) that particularly matter for monetary policy predictability during the crisis period.

To guide markets more effectively, the ECB might consider increasing transparency regarding their monetary policy decisions. The minutes based on Governing Council meetings (referred to as Accounts of the monetary policy meeting) are available since 2015; however, they do not include the attributed voting records (the decisions are taken consensually). This is in some sense understandable given that the Governing Council consists of representatives of different countries and attributed voting records may put the members under public pressure. However, Horvath et al. (2012) show that it is not only the attributed voting records but also the simple voting ratio (based on unattributed voting records—that is, without an explicit statement on how individual central bank board members voted), which help improve monetary policy predictability. Horvath et al. (2012) show this result based on the analysis of monetary policy voting records in the Czech Republic, where the Czech National Bank released the voting ratios in 2000-2007, and only later moved to release the attributed voting records from its monetary policy meetings.

However, the major change in communication practices represents to what extent communication regarding financial stability issues should be transparent. Should it be as transparent as communication regarding (conventional) monetary policy, or perhaps less? While the consequences of transparent communication regarding monetary policy issues do not have to have immediate and visible costs, communication regarding financial stability (and unconventional monetary policy) is somewhat more delicate, as transparent communication during bad times may escalate the crisis (and eventually turn liquidity issues into solvency problems). Horvath and Vasko (2016) assess the transparency of central banks regarding communication on financial stability issues and find that indeed too much transparency is not beneficial. Note also that it is far from easy to reduce the level of transparency without reputational risks.

Danielsson and Macrae (2016) emphasise the risks regarding the transparent communication of financial stability issues. They argue that during the 20th century most financial stability risks came from political risks. Consequently, if a central bank aims to transparently discuss financial stability considerations and mentions one of the major systemic financial risk determinants, political risk, the central bank then becomes part of the political debate.

An additional challenge for central bank communication in the new normal is the following situation. Suppose the Phillips curve is largely flat and, therefore, unemployment or economic activity impulses propagate only weakly into inflation. As a consequence, inflation is largely driven by inflation expectations. While asset purchases can affect inflation expectations nowadays, central bank communication will replace the position of asset purchases once the purchases programme is over. Unless policy rates are increased, central bank communication may risk losing its force.

3.3. Inflation targets

Unlike the new discussions regarding the size of balance sheets or more activity in central bank communication, discussions regarding the optimal inflation target have been taking place since the outbreak of the global financial crisis.

Proposals to change the inflation target typically include arguments that the zero (or effective) lower bound is more likely to occur in the future and that the 2% inflation target—which is typical for many central banks in developed countries—is too low, and thus

inhibits their room to manoeuvre with short-term interest rates. Therefore, the proposals recommend increasing the inflation target to 4% (see, for example, Blanchard et al. (2010) or Ball (2014)). The central bank community typically opposes these proposals, putting forward the argument that higher inflation is more volatile and that inflation expectations are less anchored; therefore, they argue that these proposals carry a non-negligible risk that the inflation target will be under or overshoot more often than in the case of the 2% inflation target (Bernanke, 2010).

In addition, a new argument appeared against a higher inflation target. This argument states that inflation below the inflation target will prevail at full employment (at a steady state) or even at overemployment (with the economy over its potential output). The current low inflation is caused by structural factors, such as globalisation and technological change, and, more specifically, by the new low-paid workers from emerging markets, the greater role of global value chains in production, and the increased effect of technology on lowering price mark-ups (Borio, 2017). Therefore, the inflation process has a strong global dimension and, to a large extent, is exogenous to domestic monetary policy. Trying to achieve a 4% inflation target in cases of low trend inflation would require very loose conventional monetary policy, possibly accompanied with unconventional measures. This loose monetary policy would have side effects on financial stability. Relatedly, Borio (2017) also advocates that the natural rate of interest is higher than most recent estimates. We address this issue in Box 2.

Many inflation targeting central banks in developed countries use an inflation target of 2% with a 1 percentage point fluctuation band. Horvath and Mateju (2011) collect data from inflation targeting central banks around the world and examine the determinants of the level of the inflation target (and inflation target band width). They find that the experience of past high inflation, high inflation volatility, high economic growth, high global inflation, and a lack of credibility lead central banks to set higher inflation targets. Coibion et al. (2012) develop a comprehensive theoretical model considering a number of relevant factors, including the zero lower bound, and find that the optimal inflation rate is slightly below 2% for the realistic calibration of their model. In addition, reaching a higher inflation target of 4% would not be easy in the current global low inflation environment and would eventually require more unconventional policies for a longer period of time.

However, the ECB's definition of price stability (i.e. lower than but close to a 2% annual inflation rate in the medium term) could be made more accurate and more in line with the practice of other central banks. This definition does not provide an exact number for the inflation target. In fact, it even gives rise to central bank research, which tries to estimate what the actual target of the ECB is. Paloviita et al. (2017) estimate that the ECB's policy reactions are symmetric around a target of 1.6% to 1.7%.

In addition, while the inflation target of other central banks is defined in the way that it treats the deviations from the target symmetrically (see Horvath and Mateju, 2011, for an overview), the ECB definition is asymmetric because it implies that inflation developments slightly above 2% are more harmful than inflation, for example, between 1%-1.5%. The asymmetric treatment of an inflation target makes sense when a new monetary policy regime is introduced and needs to build credibility. For example, Horvath (2008) estimates the reaction function of the Czech National Bank and finds asymmetry in the treatment of the inflation target after the adoption of inflation targeting (under the conditions of nearly double-digit inflation). This asymmetry disappears after several years of inflation targeting accompanied with the gradual fall in inflation rate. Given the ECB is already approaching its 20th anniversary, it might be worthwhile to rethink its definition and treatment of the inflation target towards one that is more symmetric.

Box 1: What Do Other Central Bankers Think?

Blinder et al. (2017) provide a very useful survey regarding what leading central bankers and academic economists think about the new normal in central banking. They approach central bankers and academic economists and ask them to fill out a comprehensive questionnaire regarding their thoughts on the new normal. They receive 55 questionnaires from central bankers (heads of central banks) and 159 from academic economists (with NBER or CEPR affiliations) between February and May 2016. The main question to the respondents was to assess whether and, eventually, to what degree the changes in monetary policy induced by the global financial crisis would be temporary or permanent.

The questions in this questionnaire focused on central bank mandates and, in particular, on the role of unconventional monetary policies after the crisis, the importance of macroprudential policies, the intensity of central bank communication, and relations with government.

The survey shows that more than half of the central bankers responded that discussions regarding central bank mandates have typically taken place on whether to change the inflation target and, especially, on whether to add objectives. Central bankers do not rule out using a policy of low (to zero) interest rates again, if needed, although they are more cautious to implement a negative interest rate policy (slightly more than 20% agreed that negative rates could be a viable policy in the future; however, it is important to note that if we consider only central bankers in developed countries, this number rises to nearly 40%).

The view on quantitative easing among central bankers is mixed, with half of central bankers considering quantitative easing in the possible toolkit, 40% saying that it is too early to judge, and slightly less than 10% opposing possibly including quantitative easing in the toolkit. Approximately 75% of central bankers expect that they will continue to conduct macroprudential policy after the crisis (and approximately an additional 10% expect macroprudential policy to remain, but in a modified role).

Regarding central bank communication, the majority of central bankers expect more active communication after the crisis and do not expect to reverse the changes in communication strategies undertaken during the crisis. There is also sizeable support for the notion to keep forward guidance within the toolkit, although with a disagreement on the form of forward guidance (whether data-based, only qualitative, or other). Regarding relations with government, central bankers expressed that they do not see immediate threats to central bank independence.

Overall, this comprehensive survey of central bankers regarding the new normal for central banks suggest that they expect to be much more active in safeguarding financial stability using macroprudential instruments, have mixed views on the use of quantitative easing, and would prefer a more active central bank communication towards the public.

Box 2: Natural Rate of Interest and its Consequences

Let me also focus on one more challenge of a more technical character. Once the ECB exits from unconventional monetary policy measures, a question will arise concerning what is the equilibrium interest rate (or natural rate of interest, in other words) to which the actual monetary policy rates are heading to. Central banks set interest rates keeping in mind (as well as in their structural models used for forecasting) the natural rate of interest to which the policy should converge in the steady state of the zero output gap and inflation at the target level.

Although estimates of the natural rate of interest are surrounded by a large degree of uncertainty, a number of quantitative research studies emphasise the long-term decline in the equilibrium interest rates (or sometimes labelled as policy neutral rates). These estimates are often based on a variant of the New-Keynesian model (Holston et al., 2016), which features the traditional Taylor rule specification. This specification includes the short-term interest rate (closely linked to the monetary policy rate, which is censored in the statistical sense).

However, this short-term interest rate is less relevant for actual corporate and household investment decision-making, which typically involve long-term loan or debt contracts (consider, for example, household mortgages). Cukierman (2016) argues that in order to obtain unbiased estimates of equilibrium interest rates, one needs to employ long-term interest rates, as these are more relevant for economic activity. The estimates of equilibrium interest rates are likely to be somewhat higher than from those using the short-term interest rate in the Taylor rule.

Juselius et al. (2016) also raise the question whether the natural rate of interest has fallen as much as previous research suggests. They argue that it is important to control for financial factors when estimating the natural rate of interest. Once a financial cycle is explicitly included in the model, Juselius et al. (2016) report the estimates that the natural rate of interest in the US in 2015 lies at 1.2%. This is substantially higher than the previously reported estimates by Laubach and Williams (2015) of 0%. In addition, see Borio (2017) on the critique of the traditional New Keynesian style of natural rate of interest estimation.

The perception of the very low natural rate of interest and the adherence of monetary policy towards an excessively low natural rate of interest creates a risk of too loose monetary policy and may have consequences for financial stability.

4. CONCLUSIONS

In this paper, we examine two inter-related questions. First, we analyse the design and sequencing of the phasing out from the non-standard monetary policy measures adopted by the ECB to achieve price stability and support the euro area economy. Second, we discuss the characteristics of the new normal for the ECB—namely, whether and how central banking after the crisis will differ from its pre-crisis conduct.

We argue that exiting from unconventional monetary policy measures should be gradual because of the uncertain effects of unconventional policies on the economy and financial markets. Exiting from the unconventional monetary policy should precede interest rate hikes; otherwise, it would convey mixed signals to the public. The design and sequencing of exiting from the unconventional monetary policy should be underpinned by sound, transparent, and forward-looking communication.

We also discuss the new normal for the ECB. We focus on several key characteristics—the size of balance sheets, communication, and the definition of price stability.

We argue that some shrinkage of balance sheets in the future is necessary, but that it will take years before a considerable reduction of balance sheets will materialise. We also discuss the pros and cons of retaining assets such as government bonds on the balance sheet longer than needed in order to directly influence long-term interest rates.

We expect that central bank communication will play an even more important role than before the crisis, but we also discuss that there is an optimal degree of central bank transparency and communication, and that communication regarding financial stability issues is especially delicate. We argue that in an economy with a flattening Phillips curve, interest rate hikes are key for central bank communication to be able to influence inflation expectations.

Finally, we discuss the ECB’s definition of price stability and proposals of higher inflation targets. First, we discuss the possibility of higher inflation targets and second, the ambiguity and asymmetry in the ECB’s definition of price stability. We argue that a higher inflation target represents a move into uncharted waters, with an uncertainty about anchoring inflation expectations. We find more rationale in the proposals regarding less ambiguity and less asymmetry in the ECB’s definition of price stability.

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Question 1:

Economic activity in the euro area is improving. Headline, core, and expected inflation is firmly in positive numbers. The euro area unemployment rate has fallen into single digit numbers. At the same time, the ECB's monetary policy stance can be regarded as largely accommodative. Is monetary policy still set for 329 million fellow citizens, as Mr. Trichet frequently emphasised during press conferences?

Question 2:

The ECB, during their last monetary policy meeting, announced their plans regarding asset purchases for January 2018-September 2018. Which signals would be necessary in order to change these plans? If core inflation increases, will the ECB still continue asset purchases at €30 billion each month? What is the expected trajectory of asset purchases after September 2018?

Question 3:

What is your opinion on changing the definition of price stability at the occasion of the 20th anniversary of the ECB? The current definition of price stability (below but close to 2% inflation) is somewhat ambiguous and asymmetric. What is your opinion on changing the definition of price stability to be more in line with the practice of other central banks—that is, a 2% inflation target with ± 1 percentage point range? The term "below" contains ambiguity. The current definition of price stability also implies that deviations from the (unobserved) target are not treated symmetrically. The asymmetric treatment of the inflation target makes sense when a new monetary policy regime is introduced and needs to build credibility. The ECB is approaching its 20th anniversary; it might be worthwhile to rethink its definition of price stability towards one that is more symmetric and less ambiguous.

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