

# Central Bank Communication at Times of Non-Standard Monetary Policies

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Monetary Dialogue September 2018





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## **Abstract**

Communication is an important monetary policy tool, as central banks can use it to manage the expectations of economic agents. Communication becomes even more important in times of non-standard monetary policies due to increased levels of uncertainty and the introduction of new policy tools. In this paper, we summarise the literature on central bank communication in times of non-standard monetary policies, with a particular focus on forward guidance.

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## EXECUTIVE SUMMARY

- The Global Financial Crisis (GFC) that began in 2007 was followed by the Great Recession. In 2009, for the first time since the Second World War, the world economy shrank, which was the result of an economic downturn in advanced economies.
- In reaction to the outbreak of the GFC, major central banks (the Federal Reserve, the European Central Bank, the Bank of Japan, the Bank of England, and the Swiss National Bank) reduced their interest rates to zero or even below, reaching the effective lower bound (ELB). After this, traditional monetary policy instruments became ineffective and central bankers had to come up with ideas on how to provide additional monetary stimulus to the economy. Two types of non-conventional instruments were used: quantitative easing (QE) and forward guidance.
- QE, broadly defined, covers all forms of liquidity provisions by central banks to the financial sector, which have a purpose other than keeping short-term interest rates at a certain level. Central banks provide liquidity to the financial sector by buying financial assets. As a result, their prices rise and their yields decrease. By lowering medium- and long-term interest rates and increasing the wealth perceived by economic agents, QE stimulates aggregate demand in the economy.
- Forward guidance is a communication tool. It provides information about a central bank's intentions with regard to future monetary policy. Initially, it referred to the expected path of a central bank's interest rates; however, it was later expanded to include QE. Forward guidance is aimed at managing economic agents' expectations of how borrowing costs are likely to develop in the future relevant to their economic decisions. By lowering medium- and long-term interest rates, forward guidance can boost aggregate demand.
- Communication can be used as a monetary policy tool. Since economic agents make their decisions based not only on the current situation but also based on their expectations regarding future economic developments, a central bank can increase the efficiency of monetary policy by managing their expectations. Central bank communication is especially important in times of non-conventional monetary policies due to elevated levels of economic uncertainty and the introduction of new policy tools, the functioning of which needs to be properly explained to economic agents.
- Central bank communication is also important due to the duty of central banks to explain both their actions and the thinking that underlies their actions to the general public. The accountability of central banks is a prerequisite for their independence in democratic societies. A need for accountability is even greater during times of non-standard monetary policies, due to their side effects, including effects on the distribution of the national income.
- Communication regarding the future normalisation of monetary policy will be a significant challenge for the European Central Bank. The normalisation of monetary policy encompasses terminating QE (which has already started), increasing interest rates above the ELB observed prior to the GFC, and downscaling the European Central Bank's balance sheet to the pre-crisis level. The experiences of the Federal Reserve highlight the importance of precise communication. Ineffective or imprecise communication can result in an increase in financial market volatility. The American experience suggests that central banks should be very explicit about the state-dependency of monetary policy normalisation.

## 1. INTRODUCTION

The global financial crisis (GFC) began in 2007 and was followed by the Great Recession. In 2009, the global economy shrank for the first time since the end of the Second World War. This resulted from an economic downturn in advanced countries and surprised most economists. According to the IMF forecast published in the spring of 2008, GDP growth in these economies was expected to accelerate from 1.3% in 2008 to 3.8% in 2009. However, in reality, the growth rate was 0.1% in 2008 and -3.73% in 2009 (White, 2012).

Since the outbreak of the GFC, monetary policy in advanced economies (with a few exceptions of relatively small economies such as Australia) has been very different from the monetary policy before the crisis. Accordingly, it is referred to as non-standard or unconventional (e.g. Di Giorgio, 2014). Non-standard measures involve (i) the reduction of interest rates to near zero levels (or even below); (ii) forward guidance aimed at convincing economic agents that borrowing costs would not increase for an extended period of time; and (iii) a broadly defined quantitative easing (QE) of monetary policy which resulted in a several-fold increase in the size of central banks' balance sheets.

The non-standard measures proved to be successful in preventing the collapse of the financial sector, disordered deleveraging, and a dramatic fall in output. However, the growth performance of advanced economies after the acute phase of the GFC was surprisingly poor. The Great Recession was followed by a sovereign debt crisis in the euro area. However, in other advanced economies, recovery was also sluggish by historical standards. As a result, non-standard monetary policy measures have become long-lasting. Even though exit strategies from these measures were already being discussed in 2009, they are still widely used.

The question arises, why did central banks use these non-standard policy measures? A standard monetary policy response to an economic contraction is to lower the central bank's interest rates. The magnitude of the Global Recession turned out to be so severe that it would require decreasing interest rates well below zero. For the reasons described below, such a response of the central bank would be inefficient and could potentially have negative consequences for the stability of the financial system. Negative nominal interest rates result in an odd situation in which the debtor is rewarded for taking a loan, as the creditor is required to pay interest to the debtor. This creates the risk of a credit crunch, as extending loans brings economic loss to the creditor. To put it differently, it becomes more profitable for banks to keep the liquid funds for themselves than to extend loans to consumers and businesses. This situation is called a 'liquidity trap', a term introduced in 1936 by British economist John Maynard Keynes:

'There is the possibility... that, after the rate of interest has fallen to a certain level, liquidity-preference may become virtually absolute in the sense that almost everyone prefers cash to holding a debt which yields so low a rate of interest. In this event the monetary authority would have lost effective control over the rate of interest. But whilst this limiting case might become practically important in future, I know of no example of it hitherto.' (Keynes, 1936)

Assuming that one could come up with a tool that would force banks to extend loans with negative interest rates, theoretically, it could still be profitable to banks if the credit spread remained positive. This would require, however, the interest rates on bank deposits to be even lower than the already negative interest rates on loans. Such a situation is unsustainable, as this would mean that deposit holders would be charged for keeping their money in banks. A rational response to such a situation is to withdraw the money from the bank, as cash bears no interest. However, holding cash is also associated with costs (e.g. storing it in a safe place, relatively high transaction costs), so a run on bank



deposits is unlikely if interest rates on bank deposits would be only slightly negative. Pushing the nominal interest rates on bank deposits further into negative territory would eventually result in cash substitution (the withdrawal of deposits from banks) that could threaten the stability of the financial system. This results in an inability to lower nominal interest rates significantly below zero. Economists commonly refer to this as a 'zero lower bound' (ZLB).

The existence of the ZLB makes standard monetary policy tools ineffective, especially in times of deflation. Central banks use nominal interest rates as their most fundamental monetary policy tool, but what they actually intend to influence are real interest rates (nominal interest rates less the inflation rate). When the average level of prices in the economy is decreasing, real interest rates remain positive even at the ZLB. Therefore, the inability to lower nominal interest rates significantly below zero constrains the ability of central banks to influence real interest rates, making standard monetary policy tools ineffective.

Central banks' policy rates are usually short-term interest rates. For example, the main European Central Bank (ECB) policy rate is the interest rate on the main refinancing operations (MROs). MROs are one-week operations which provide the bulk of liquidity to the banking system. Since economic agents usually take loans with much longer maturities, their decisions are naturally dependent on the level of medium- and long-term interest rates. When constrained by the ZLB, central banks can try to influence these rates to provide further monetary stimulus to the economy. Since this kind of policy is not used in normal times, it is referred to as non-standard or non-conventional.

Central banks can influence medium- and long-run interest rates in a direct and indirect manner. A direct way of influencing these rates is through purchases of financial assets. When a central bank creates additional demand for certain securities—for example, government bonds, it causes an increase in their prices, lowering their yields. This type of policy is referred to as QE. An indirect way to influence interest rates is through influencing expectations regarding future interest rates. Since medium- and long-term interest rates reflect economic agents' expectations regarding the future path of short-term interest rates, a central bank can lower them by convincing economic agents that policy rates will remain low for a prolonged period of time. This type of policy is referred to as 'forward guidance'. These non-conventional policies are described in detail later in the text. As forward guidance is a communication tool, it will be our primary interest in this paper.

The remainder of the paper is structured as follows. In Section 2, we briefly describe the non-standard monetary policy tools used by major central banks after the outbreak of the GFC. In Section 3, we present the role of communication as a monetary policy tool. In Section 4, we explain why the importance of communication increases after a severe economic shock. In Section 5, we discuss forward guidance. In Section 6, we present the communication challenges in non-standard times. In Section 7, we describe and assess the communication strategies of major central banks regarding the use of non-standard monetary policy tools and we elaborate on a possible communications path towards monetary policy normalisations. The paper ends with the summary and conclusions.

## 2. NON-STANDARD MONETARY POLICY MEASURES

### 2.1. Types of non-standard monetary policy measures

One may indicate three main types of non-standard (or unconventional) monetary policy measures: (i) interest rates reduced below the previous effective lower bound (ELB); (ii) forward guidance; and (iii) broadly defined QE.

Until recently, the ELB on the interest rate was 2% or more (for details, see Homer and Sylla, 2005). During the 20th century, interest rates were kept below this bound only after the Great Depression, during war economies and their withdrawal, occasionally in some centrally planned economies, in Switzerland as it coped with excessive capital inflows in 1977-1978 and 1996-1999, and in Japan after the burst of the speculative bubble at the beginning of the 1990s. Hence, by historical metrics, interest rates close to or even below zero are clearly non-standard (this having been said, they are not always considered to belong to unconventional monetary policy measures).

Forward guidance is a communication tool. It provides information about a central bank's intentions with regard to future monetary policy. Initially, forward guidance referred to the expected path of interest rates set by a central bank; however, it was then extended to include QE. It is aimed at managing the expectations of economic agents concerning how borrowing costs are likely to develop in the future relevant to their economic decisions. It is intended to give central bank the power to boost aggregate demand in order to maintain price stability when it has no meaningful room for further cutting interest rates.

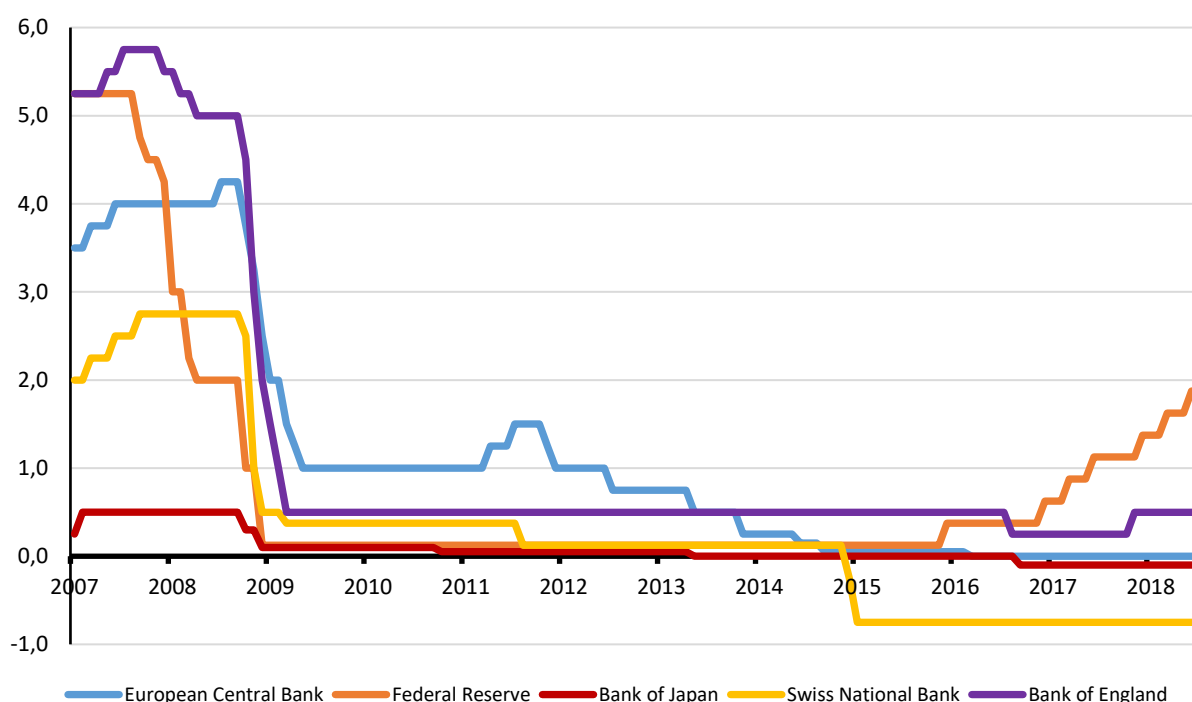
QE, broadly defined, covers all forms of liquidity provisions by central bank to the financial sector that have a purpose other than keeping short-term interest rates at a certain level. For example, this is how the Bank of Japan (BoJ) understood QE when it launched its programme of 'comprehensive' QE in October 2010, which included essentially all types of unconventional liquidity provisions. However, some economists reserve the term QE to refer to the increases of a central bank's balance sheet that keep the structure of the balance sheet unchanged (see, e.g. Bernanke and Reinhart, 2004; Bernanke et al., 2004) or that change only the structure of the central bank's liabilities (see, e.g. Shiratsuka, 2009). Increases in or changes to the structure of a central bank's balance sheet—focused on assets—are then called credit easing (see, e.g. Bernanke, 2009; Shiratsuka, 2009).

A central bank uses QE to prove its determination to stabilise the economy during a downturn, when it cannot further cut interest rates further (however, QE can also be carried out before a central bank's interest rates fall to zero). QE can stimulate aggregate demand through lowering longer-term interest rates and increasing the wealth perceived by economic agents and, thereby, their propensity to spend. This is because when a central bank buys financial assets, it can raise their prices and lower their yields. However, these effects are far from certain. In usual circumstances, a central bank's purchases are likely offset by the activities of economic agents aimed at hedging themselves against the potential risk of an additional tax burden to cover the losses of the central bank (see, e.g. Woodford, 2012). QE can raise prices of financial asset only if there are financial frictions and the central bank is able to mitigate them by QE (see, e.g. Cúrdia and Woodford, 2011). Otherwise, QE's positive effects on aggregate demand boil down to strengthening the credibility of forward guidance.

## 2.2. Reaction of major central banks to the outbreak of the GFC. Use of non-standard monetary policy tools

Major central banks reacted to the outbreak of the GFC with extremely sharp decreases in interest rates, which is shown in Figure 1. The first central bank that reacted was the Federal Reserve (Fed), which began its loosening of monetary policy by cutting interest rates by 50 basis points (bps) on 18 September 2007. This cut initiated a series of rapid interest rate decreases that ended on 16 December 2008 when the Federal Open Market Committee's (FOMC) target federal funds rate reached zero.<sup>1</sup> Within a period of 15 months, the Fed decreased interest rates 10 times, in total by 5.25 percentage points, and kept them at the ZLB until 17 December 2015. Other major central banks promptly followed the example of the Fed and also lowered interest rates, quickly reaching the ZLB. The Bank of Japan, the Swiss National Bank (SNB), and Sveriges Riksbank even decided to push their key interest rates below zero. The ECB and Danmarks Nationalbank decided to set negative deposit rates while keeping their repo rates non-negative.

Figure 1: Policy interest rates of major central banks in 2007-2018



Source: Bank of International Settlements [<https://www.bis.org/statistics/cbpol.htm>].

After approaching the ZLB, central banks used QE to provide further monetary stimulus. The first central bank that used QE after the outbreak of the GFC was the Fed. The Fed launched its first QE programme (hereafter QE1) on 25 November 2008. QE1 was followed by two other programmes (QE2 and QE3). A summary of the Fed's QE programmes is provided in Table 1.

<sup>1</sup> The level of the FOMC's target federal funds rate was set between 0 and 0.25%.

Table 1: Summary of the QE programmes performed by the Federal Reserve

Name	Time period	Short description
QE1	December 2008 to March 2010	Purchase of \$175 billion in agency securities. Purchase of \$1.25 trillion in mortgage-backed securities.
Reinvestment Policy	August 2010 to present	Replacement of maturing securities to maintain the balance sheet at a constant nominal size if there is no QE programme underway.
QE2	November 2010 to June 2011	Purchases of \$600 billion in long-maturity Treasury securities.
Operation Twist	September 2011 to December 2012	Swap of more than \$600 billion involving purchases of Treasury securities with maturities of six to 30 years and sales of Treasury securities with maturities of three years or less.
QE3	September 2012 to October 2014	Purchases of mortgage-backed securities and long-maturity Treasury securities, initially set at \$40 billion per month for mortgage-backed securities and \$45 billion per month for long-maturity Treasury securities.

Source: Own elaboration based on Williamson (2017).

The first Asset Purchase Programme (APP) in the euro area was launched by the ECB on 2 July 2009. It was called the Covered Bonds Purchase Programme (CBPP1) and ended on 30 June 2010 after reaching a planned nominal amount of EUR 60 billion. In May 2010, the Securities Markets Programme (SMP) was initiated by the ECB to address the severe tensions in the financial markets that hampered the transmission mechanism of the monetary policy. The SMP was terminated on 6 September 2012, when the ECB Governing Council decided to initiate the Outright Monetary Transactions Programme (OMT). In November 2011, the Second Covered Bonds Purchase Programme (CBPP2) was initiated. It ended on 31 October 2012 after reaching a value of EUR 16.4 billion.

On 22 January 2015, the ECB announced the Expanded APP<sup>2</sup>. The Expanded APP consists of several sub-programmes:

- the Public Sector Purchase Programme (PSPP),
- the Corporate Sector Purchase Programme (CSPP),
- the Asset-Backed Securities Purchase Programme (ABSPP), and
- the Third Covered Bond Purchase Programme (CBPP3).

The value of monthly asset purchases evolved over time. From March 2015 to March 2016, they amounted to EUR 60 billion, from April 2016 to March 2017—EUR 80 billion, from April 2017 to December 2017—EUR 60 billion, and EUR 30 billion later on. On 14 June 2018, the ECB's Governing Council stated that it 'anticipates that, after September 2018, subject to incoming data confirming the Governing Council's medium-term inflation outlook, the monthly pace of the net asset purchases will be reduced to €15 billion until the end of December 2018 and that net purchases will then end.'<sup>3</sup> The value and composition of the Expanded APP is shown in Figure 2.

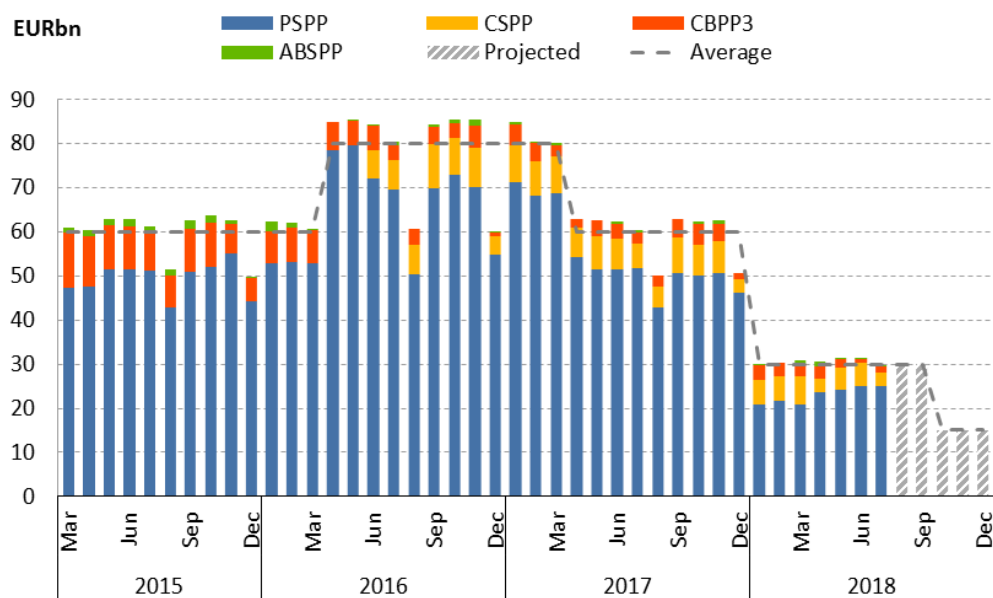
Apart from the APPs described above, the ECB also introduced Long-Term Refinancing Operations (LTROs) and Targeted Long-Term Refinancing Operations (TLTROs), as well as US dollar liquidity-providing operations. LTROs and TLTROs provided funding to credit institutions for a period of up to three (initially one) and four years respectively. The first 3-year LTRO was announced on 20 December 2011 and replaced 12-month LTRO announced on 6 October 2011. The second 3-year LTRO was

<sup>2</sup> [https://www.ecb.europa.eu/press/pr/date/2015/html/pr150122\\_1.en.html](https://www.ecb.europa.eu/press/pr/date/2015/html/pr150122_1.en.html).

<sup>3</sup> <https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.mp180614.en.html>.

announced on 28 February 2012.<sup>4</sup> A first series of TLTROs, the purpose of which is to further increase the supply of credit to the real economy, was announced on 5 June 2014 and a second series (TLTRO II) on 10 March 2016.<sup>5</sup>

Figure 2: APP monthly net purchases, by programme



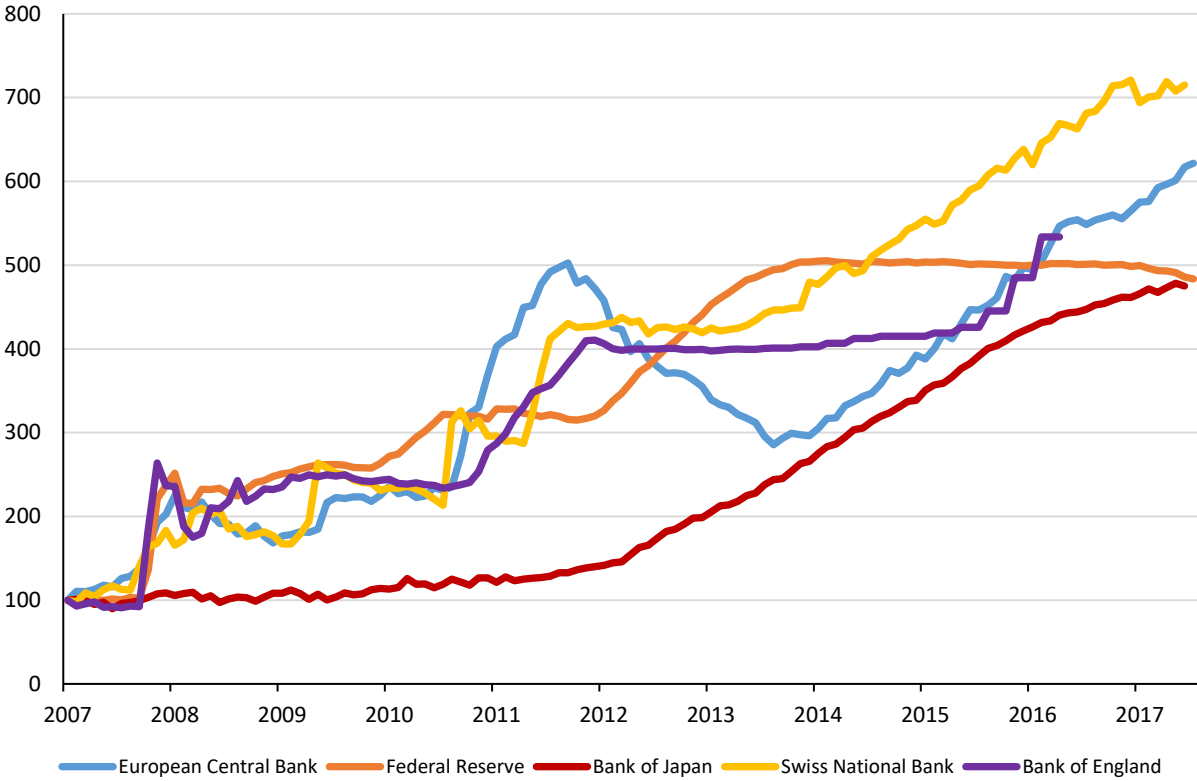
Source: ECB [<https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html>].

QE provided enormous amounts of liquidity to financial markets and resulted in a several-fold increase in the size of central banks' balance sheets. The balance sheets of the BoJ and the Fed increased nearly five times; however, in the case of the BoJ, the increase occurred later and was more smooth, whereas in the case of the Fed, the increases were earlier and sharper, and one can clearly see three distinct phases of QE. The increase in balance sheet size was the highest for the SNB (by over 600%). The change in the sizes of the balance sheets of major central banks is presented in Figure 3.

<sup>4</sup> [https://www.ecb.europa.eu/press/pr/date/2011/html/pr111208\\_1.en.html](https://www.ecb.europa.eu/press/pr/date/2011/html/pr111208_1.en.html).

<sup>5</sup> <https://www.ecb.europa.eu/mopo/implement/omo/tltro/html/index.en.html>.

Figure 3: Total assets of major central banks during 2007-2017 (1 January 2007 = 100)



Source: Own elaboration based on the central banks' data.

### 3. COMMUNICATION AS A MONETARY POLICY TOOL

#### 3.1. Role of central bank communication in the new-Keynesian analytical framework

Decisions in a given period very often constrain future choices. People are generally aware of this and try to foresee their current decisions' impact on future choices and adjust their decisions according to the weights they assign to the present and future. Hence, economic decisions are based not only on current economic conditions but also on economic agents' expectations. This general idea is at the forefront of the new-Keynesian (NK) analytical framework, which is a standard analytical tool in central banks.

The NK analytical framework relies on two major economic relationships: the expectational IS curve and the NK Phillips curve. The relationships are derived, respectively, from the conditions of households maximising utility (from consumption and leisure) and of enterprises maximising profits. It follows from the NK Phillips curve that inflation depends on the inflation target (set by the central bank), the expected deviation of inflation from the target in the next period, and the current output gap. The output gap is given by the expectational IS curve and depends on the current difference between the real interest rate and natural interest rate and the output gap expected in the next period (see, e.g. Woodford, 2003).<sup>6</sup>

An economic downturn in this framework is usually interpreted as being caused by an exogenous decrease in the natural interest rate. The decline reflects a shift in households' preferences towards substituting their current spending with future spending—that is, a negative demand shock. The shock results in a negative output gap. The gap induces households to lower inflation expectations. The fall of inflation expectations raises the real cost of borrowing, encouraging households to further reduce their current spending.

The framework implies that a central bank can close the output gap and prevent inflation from falling below the target by appropriately adjusting interest rates to temporarily lower natural interest rate. Moreover, what matters is not only the interest rates in a current period but their expected level in all future periods. The reason is that the expected value of the output gap in the next period (which influences the current output gap) depends on the expected deviation of real interest rates from the natural interest rate in that period and the output gap expected in the subsequent period (which, in turn, depends on the expected deviation of real interest rates from the natural interest rate in this subsequent period and the output gap expected in the period following this subsequent period, and so on and so forth).<sup>7</sup>

Inflation depends on the whole path of the expected interest rates, and not only on the interest rates in a current period, irrespective of whether the central bank communicates with economic agents or not. This dependence makes communication an important and potentially powerful tool at the disposal of the central bank. If a central bank did not communicate, then economic agents would still formulate their expectations and these expectations would still be of crucial importance for inflation.

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<sup>6</sup> Although money does not occur in the expectational IS curve or the NK Phillips curve, it is present in the NK analytical framework. It is assumed that money is an element of the household utility function or that it reduces the cost of exchange, or that economic agents must have it in advance before transactions. Technically, the absence of money in both major economic relations of the NK analytical framework results from the assumption that the household utility function or transaction costs are additively separable. With this assumption, the money demand function contains only information about the amount of money that the central bank must issue to set the interest rate at a level consistent with the rule according to which the central bank conducts monetary policy.

<sup>7</sup> Technically speaking, the expectational IS curve can be presented in a non-recurring way.

However, it would be more difficult for the central bank to control inflation. By contrast, if the central bank communicates, then it can manage expectations in order to improve its control. Obviously, there is always a risk of economic agents misinterpreting central bank communications. Nevertheless, clarity in a central bank's communication reduces this risk.

Blinder et al. (2008) argue that if the economic environment was stationary, the central bank was credibly committed to an unchanging policy rule, and expectations were rational, economic agents could perfectly predict a central bank's policy and any communication would be redundant. Faust and Svensson (2001) define central bank transparency as how easily the public can deduce central bank goals and intentions from observable data. Blinder et al. (2008) argue that under the conditions outlined above and according to Faust and Svensson's definition, the central bank would be fully transparent without uttering a word. The authors argue, though, that these conditions are unrealistic and a violation of one or more of them makes central bank communication matter.

In reality, however, all of the aforementioned conditions are violated. The world is constantly changing and, therefore, economic agents are in a constant process of adaptive learning on how the economy and the central bank behave. Moreover, the economy is too complicated to construct a policy rule that would predict all possible states of the world. Finally, rational optimising is too demanding, and actual decisions may reflect the use of heuristics. This means that, in reality, a central bank's communication (or lack thereof) may have a profound effect on the economy.

Effective communication gives the central bank the power to maintain price stability even when it cannot cut interest rates any further in response to an economic downturn. The NK analytical framework implies that after lowering interest rates to the ELB, the central bank may still close a negative output gap and bring inflation back to the target if it declares that when it becomes possible (i.e. when the negative shock in the natural interest rate begins to expire), it will keep the real interest rate clearly below the natural interest rate, or will do so for a sufficiently long time (see, e.g. Eggertsson and Woodford, 2003).

Thereby, the NK analytical framework provides a theoretical underpinning for forward guidance. Note however that the specific form of forward guidance did not always comply with what this framework prompts, to say the least. Woodford (2012) argues that forward guidance provided forecasts of likely interest rate paths instead of making the commitment not to respond promptly to future demand pressure. Using the taxonomy set forth by Campbell et al. (2012), it was more of a Delphic than an Odyssean nature. Without such a commitment, forward guidance could instil the belief in the public that growth prospects are poor. We return to this issue later on.

Some economists (see, e.g. Svensson, 2004) claim that in addition to interest rate expectations, the central bank can manage inflation expectations. They treat inflation expectation management as a separate monetary instrument. Others (see, e.g. Eggertsson and Woodford, 2003) emphasise that the central bank's influence on inflation expectations is closely related to how the central bank manages interest rate expectations. If it commits not to raise interest rates for some time in spite of a positive output gap, it simultaneously accepts an inflation rate above the target. Its declaration to meet the inflation target would be inconsistent with its commitment to keep interest rates on hold (Walsh, 2009).

Theoretically, when the ELB binds, the central bank could increase inflation expectations by raising its inflation target. In practice, raising the target would entail the risk of fuelling the doubts of economic agents about the central bank's ability to stabilise the economy. On the one hand, difficulties with meeting the previous (lower) target would deprive the new (higher) target of credibility, at least in the eyes of some economic agents. On the other hand, a mass recognition of the new (higher) target as credible would increase the risk premium, which the central bank could not mitigate by cutting interest



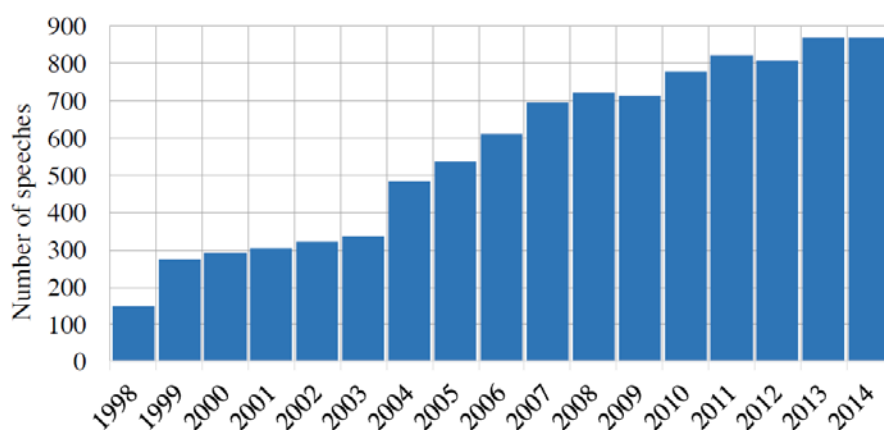
rates when the ELB binds (see Corsetti et al., 2012). This would lower the prices of financial assets and worsen the financial condition of their holders, including financial institutions. As a result, their problems caused by the crisis would deepen (for more about the risks and costs associated with raising the inflation target, see, e.g. Issing, 2011).

It is worth mentioning that Blanchard et al. (2010), who, directly after the GFC, encouraged central banks to consider raising their inflation targets, acknowledged threats to financial stability. That is why they did not treat their proposal as a recipe for accelerating recovery after the GFC, but rather as a way to increase the central bank's ability to respond to future shocks. Hence, they suggested that it could be implemented after healing the situation in the financial sector.

### 3.2. Accountability of central banks in democratic societies and the evolution of central bank communication

Blinder et al. (2008) and Vayid (2013) argue that central bank communication evolved tremendously at the turn of the 19th and 20th century. Blinder et al. (2008) write that prior to the 1990s 'central banks we shrouded in mystery—and believed they should be'. Vayid (2013) writes central banks 'said little publicly to explain what they were up to and why. With multiple monetary policy objectives and instruments, policy actions were generally not predictable'. Most central bankers believed that monetary policymakers should release as little information as possible to the general public. This attitude started to change in the last decade of the 20th century. The development of the expectations theory and the introduction of inflation targeting made economists change their opinion on this issue. More and more economists started to argue that communications could be a valuable policy tool and that a proper communications strategy could enable central banks to influence the expectations of economic agents and to improve the performance of monetary policy. An increasing number of policymakers started to believe that communication can be used as a tool to anchor inflation expectations and guide financial markets. As a result, central banks became more open and started to communicate their policies more intensely, a good indicator of which is the number of speeches given by central bank representatives, which is shown in Figure 4.

Figure 4: Speeches given by representatives of central banks in a sample of 73 countries



Source: Lustenberger and Rossi (2017).

The change in attitude towards central bank communication coincided with changes regarding central bank independence. At this time, central banks in many countries, especially in advanced economies,

were granted a great degree of independence. It has become a common trend to delegate authority regarding monetary policy to designated committees within central banks. These committees are given specific mandates, which are usually expressed in quantitative terms. At the same time, central banks became substantially more transparent, revealing more information regarding how they conduct monetary policy. Vayid (2013) argues that '[t]he advent of inflation targeting in the early 1990s acted as the catalyst for enhanced transparency and communication in the conduct of monetary policy'. Blinder et al. (2008) write that the increase in central bank independence was a major driver of changes in their communication practices, as it is commonly expected that more independent central banks should be more accountable. The authors argue that central banks in democratic societies 'have a duty to explain both their actions and the thinking that underlies their actions'. Empirical analysis performed by Dincer and Eichengreen (2014) confirms that the transparency of a central bank's actions and the degree of its independence are highly correlated.

Theoretical and empirical studies regarding central bank communication often refer to the notion of the 'signal-to-noise ratio'. Researchers argue that the purpose of central bank communication should be to increase this ratio by sending signals and reducing noise. By doing this, the central bank should increase the predictability of monetary policy and, consequently, reduce the volatility in financial markets and improve the performance of monetary policy.

Blinder et al. (2008) write that central banks communicate about four aspects of monetary policy:

- 1) objectives and strategy,
- 2) the motives behind a particular policy decision,
- 3) the economic outlook, and
- 4) future monetary policy decisions.

The authors write that the objectives and strategy of central banks tend to be more stable than the other three aspects, resulting in the lower variability of signals regarding this aspect as compared to the rest. Generally, the objectives of a central bank should be clearly defined in its mandate, preferably in quantitative terms, as it makes it easier to assess central banks performance. It is also important that the central bank clearly communicates its strategy, as this enables economic agents to better comprehend the central bank's reaction function and improves the predictability of monetary policy.

The most common communication tools used by central banks are the following:

- (1) press conferences,
- (2) minutes and voting records,
- (3) reports (e.g. annual reports, inflation reports, and quarterly and/or monthly bulletins),
- (4) official hearings and testimonies (e.g. in parliament), and
- (5) interviews with individual monetary policy committee (MPC) members.

Different tools have different characteristics, and a combination of several tools is needed for effective communication. Press conferences, for example, enable the central bank to communicate the motives behind a particular monetary policy decision very quickly (compared to, for example, using minutes). Moreover, press conferences allow for additional questions from the media, limiting possible misunderstandings concerning the central bank's communication. The downside of press conferences is the limited amount of information that can be provided at once. To provide more detailed information, other tools are needed, such as minutes, voting records, reports, or official hearings and testimonies. A downside of these tools is that they are provided according to a predefined schedule

and therefore are unsuitable for just-in-time communication. If the central bank wants to quickly react to current events, interviews on TV and in other media seem to be the most appropriate. This tool, however, should not be overused, as there is a limit to the amount of communication that can be effectively digested—too much communication from the central bank might increase the noise, lowering the signal-to-noise ratio. This is especially dangerous if individual members of the MPC express their own opinions in a non-coordinated manner.

Blinder et al. (2008) argue that the practices of central banks regarding communication differ enormously. In particular, central banks differ significantly when it comes to the amount of information disclosed about the decision-making process. Vayid (2013) writes that the main differences in central bank communication relate to ‘the extent of information revealed about the differences of opinion among decision makers, where decisions are reached by voting, and how much explicit or implicit guidance is given on the future stance of policy’.

Blinder et al. (2008) argue, however, that one could observe clear trends towards more timely and more open communication. Dincer and Eichengreen (2014) assembled information on the transparency of 120 central banks. According to their measurements, in 2010, compared to 1998, the level of transparency increased in 109 central banks, while it remained the same for 10. The only country in the sample where the level of the central bank’s transparency decreased was Uruguay.

The measure of central bank transparency designed by Dincer and Eichengreen (2014) takes values from zero to 15. Since the year 2004, the value for the ECB remained constant at 11 (the last observation was in 2010), which is a slightly better result than in, for example, Switzerland (10.5 in 2010), Japan (10.5), Norway (10), or Denmark (8); a worse result than in Israel (11.5), Hungary (13.5), New Zealand (14), or Sweden (14.5); and identical to that of the Fed (which has been constant at 11 since 2006).

## 4. ROLE OF COMMUNICATION IN NON-STANDARD TIMES

The importance of central bank communication increases in non-standard times for several reasons (see, e.g. Coenen et al., 2017).

First, a crisis heightens economic uncertainty, which is understood as a situation where a specific economic choice may bring about very different results depending on the circumstances which economic agents are unable to attribute objective probabilities (see, e.g. Bloom, 2009). Economic agents have growing doubts about what will happen in the economy, how to properly interpret past events, and what are the implications of past events for the future (Meltzer, 1982). To put it differently, they have significant problems not only with forecasting, but even with a diagnosis. These doubts are a consequence of a decrease in the trust of economic agents to the ways in which they processed data before the crisis. These methods proved to be unreliable: they did not prevent many economic agents from making serious mistakes. The doubts also reflect a fall in the usefulness of the empirical probabilities derived from the classification of past events. There are more events that cannot be combined into one group with any past event. As a result of this (and of the problems of the financial sector), hedging against unfavourable scenarios becomes much more difficult than before the crisis.

In such an environment, the central bank should make its policy as predictable as possible. In order to minimise uncertainty about the future course of monetary policy, the central bank should disclose the information available for policymakers, their evaluation of inflation and growth prospects based on this information, and their reaction function.

Second, the central bank can be unable to mitigate a shock caused by the crisis with its standard instruments. In particular, interest rates can reach the ELB. Careful communication is needed to explain why this has happened. While the central bank should not create a false impression that it is able to deal with all the problems revealed or caused by the crisis, it should strive to dispel concerns that it is powerless.

Third, with standard instruments reaching their limits, the central bank has to envisage non-standard measures, especially when their effectiveness has a theoretical underpinning, as in the case of forward guidance. Recall that the NK analytical framework implies that the central bank can stabilise the economy by a commitment not to raise interest rates over a certain period, once the ELB ceases to bind.

When the central bank takes non-standard measures, it should explain why they are needed, how they will be introduced, what outcomes it expects to achieve, and how it will exit from these measures. It should be sufficiently clear in its communication. Otherwise, it risks heightening uncertainty, given that economic agents cannot base their expectations on experience. Without clear central bank declarations, they can only speculate. The unprecedented nature of monetary policy in itself adds enough to uncertainty (see, e.g. Meltzer, 2014; Taylor, 2014)

Fourth, non-standard monetary policy measures can have costly side effects. Interest rates close to zero (or even negative) together with the ample liquidity provided through QE can promote forbearance lending, which keeps unproductive firms afloat, crowds viable firms out of credit, and thwarts capital and labour reallocation. They thus strengthen financial frictions and deter post-crisis restructuring.<sup>8</sup>

By delaying post-crisis adjustments, non-standard monetary policy measures maintain uncertainty about the timing, scope, and effects of restructuring while narrowing the possibilities for reducing

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<sup>8</sup> We leave aside the most frequent criticism of very accommodative monetary policy, centred on risk misjudgement, excessive risk taking, and asset bubble creation, not to mention inflationary pressure (see, e.g. Issing, 2012 or White, 2012). This criticism refers more to an economy that has no slack rather than to one hit by a crisis and struggling to recover, which we focus on.

uncertainty through information acquisition and processing, as its quality is low. At the same time, there is a high risk that the newly acquired information will soon become obsolete. Even a small negative shock may cease the operations of non-viable firm, for banks may confound the effects of shock with the debtor's actions, increasing their losses. Worse, a positive economic development is not at all favourable for such firms either because it increases the risk that banks stop forbearance lending, and the firm loses funding. The more non-viable firms there are, the more uncertain a positive economic development becomes for other firms, as their important partners may prove to be non-viable or may collaborate with non-viable firms. All in all, firms do not know when the structure of the economy will seriously change or how it will change. However, they should have no doubt that serious changes will occur. If the economy had not needed them, there would have been no crisis (Ciżkowicz and Rzońca, 2017).

The central bank should not neglect these side effects. As they are under-researched, it should encourage studies of them. It should also communicate the results of these studies and adjust its policy based on the newly acquired knowledge.<sup>9</sup> Open communication on that score is required for central bank accountability.

Accountability is the fifth reason why central bank communication becomes more important in non-standard times. It is widely acknowledged that non-standard monetary policy measures have distributional effects. On the one hand, they favour debtors, financial asset holders, and the stakeholders of unproductive firms that have been kept afloat. On the other hand, they disfavour creditors and the stakeholders of viable firms. These effects attract additional public interest in monetary policy. If unmet, it may put the central bank's independence at risk.

Rzońca and Łaszek (2016) draw attention to another effect of non-standard monetary policy measures which accountable central banks should address in their communications. The authors argue that if the central banks lower the intensity of restructuring, then they also contribute to a drop in social mobility. When there are almost no bankruptcies, the rich have to make less effort to remain rich. In turn, when it is more difficult to enter the market, the poor have lower chances than before the GFC of lifting themselves out of poverty. Falling mobility between the rich and the poor reduces social acceptance for social disparities and may fuel support for populists.

While non-standard times require more communication from the central bank, this does not mean that transparency has no desirable limit. In particular, Horvath and Vasko (2016) argue that too much communication on financial stability issues during a crisis may deepen it. At the same time, transparency once increased cannot be easily curbed without reputational costs.

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<sup>9</sup> Interestingly, Ciżkowicz et al. (2015) show, using a standard NK analytical framework, that moderate side effects of non-standard monetary policy measures usually suffice for running more standard policy to pay off in terms of welfare.

## 5. FORWARD GUIDANCE AS A NON-STANDARD POLICY TOOL

Forward guidance is central bank communication concerning future monetary policy. It can relate to different policy tools—in particular, future interest rates—and, if a QE programme is in place, details regarding future asset purchases by the central bank. There are several types of forward guidance described in the literature. Below, we briefly present the reasoning behind the introduction of forward guidance, as well as describe its most important types.

In normal times, economic agents can predict the actions of the central bank based on historical experiences, so very little communication is needed from the central bank. The situation changes dramatically after a severe crisis, when non-standard policies are employed by the central bank. First, the level of uncertainty is elevated, as economic agents have lost their trust in the methods used in the past to evaluate economic prospects. Second, standard monetary policy instruments are constrained, and economic agents do not have any historical experience regarding non-standard monetary policy instruments. As a result, they cannot predict the future actions of the central bank. Forward guidance can be used to manage their expectations regarding the course of future monetary policy. Importantly, by convincing economic agents that policy rates will be kept at exceptionally low levels in the foreseeable future, the central bank can lower medium- and long-term interest rates and provide further monetary stimulus to the economy.

Odyssean<sup>10</sup> forward guidance represents a *commitment* about future monetary policy (Coenen et al., 2017). In the case of Odyssean forward guidance, the central bank promises to follow a certain plan even if future circumstances change in a way that the monetary policy would require re-optimisation. Importantly, Odyssean forward guidance allows for a mild and transitory overshoot of output and inflation that normally would not be allowed by the central bank.

Delphic forward guidance, on the other hand, is the central bank's communication regarding the *likely* future parameters of monetary policy. The primary purpose of Delphic forward guidance is to explain the central bank's reaction function to the financial markets. In the case of Delphic forward guidance, the central bank publishes its economic forecasts and informs the general public what the parameters of monetary policy will be if the forecasts prove to be correct. Importantly, communication regarding future monetary policy is not a commitment—the central bank reserves the right to modify it if circumstances change. In other words, the future path of monetary policy presented by the central bank is a forecast, not a promise.

According to Coenen et al. (2017), in standard monetary policy models, credible Odyssean forward guidance is a powerful tool, as it allows for quicker and more sizeable changes in output and inflation as compared to Delphic forward guidance. In the case of Delphic forward guidance, inflation and output undershoot the target substantially and for a prolonged period of time, whereas in the case of Odyssean forward guidance, the gap is much smaller and inflation and output slightly overshoots the target for a short period of time. Simulations of Odyssean and Delphic forward guidance are presented in Figure 5.

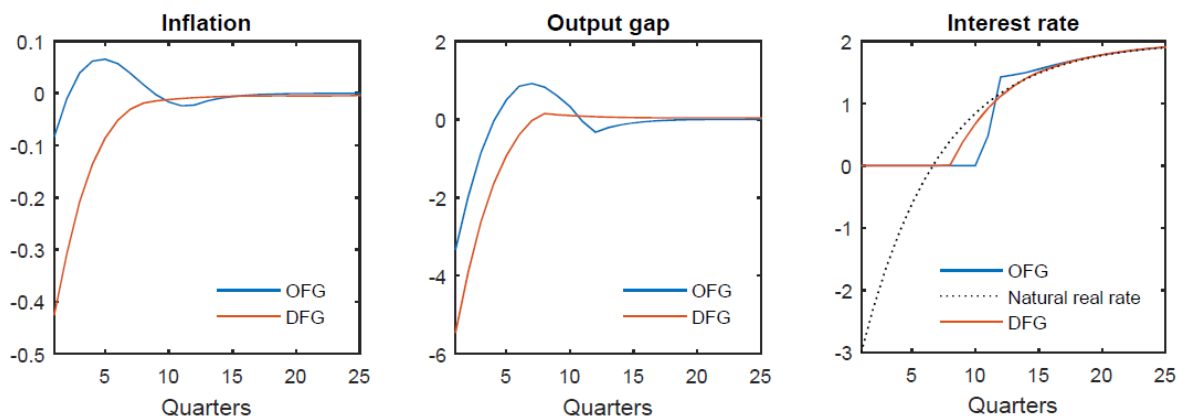
The effectiveness of forward guidance, especially Odyssean forward guidance, is the subject of a lively theoretical debate. Some researchers raise doubts regarding the ability of the central bank to effectively commit itself to not re-optimize monetary policy in the future. If the future path of monetary

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<sup>10</sup> Term 'Odyssean' refers to the story of Odysseus, who wanted to listen to the sirens singing, but who knew that they would tempt and kill him and his sailors. He ordered his men to tie him firmly to the mast of his ship, so that he could not do anything, and to block their ears with beeswax, so that they could not hear what he was saying or the sirens singing. Through these actions, Odysseus improved his own situation by constraining the array of possible future decisions.

policy that the central bank committed itself to follow turns out to be at odds with the central bank's mandate, by following it, the central bank would harm its credibility. If economic agents perceive time-inconsistency in the policy, meaning that the central bank will start to increase interest rates sooner than it promised, long-term interest rates will not fall as much as desired by the central bank (Coenen et al., 2017). Gabaix (2016) argues that if, in reality, economic agents are less forward-looking than assumed in standard monetary policy models, forward guidance will have a smaller effect on present inflation and output than shown in the simulations.

Figure 5: Odyssean versus Delphic forward guidance in a simulated liquidity trap episode



Source: Coenen et al. (2017, p. 19).

Note: OFG – Odyssean forward guidance, DFG – Delphic forward guidance.

Coenen et al. (2017) also provides an alternative classification of types of forward guidance.

Open-ended forward guidance provides qualitative information regarding monetary policy without providing an exact timeframe. According to Coenen et al. (2017), an example of this type of forward guidance is the statement ‘we expect the key ECB interest rates to remain at present or lower levels for an extended period of time’ used by the ECB until January 2016. This type of forward guidance provides the lowest degree of commitment and therefore should be expected to be relatively less effective than other types of forward guidance.

Time-dependent forward guidance expresses the likely future path of monetary policy as a function of time. It provides exact dates and corresponding parameters of monetary policy by stating, for example, that ‘interest rates will remain stable for at least the next 12 months’. This type of forward guidance, depending on the exact wording, can be made more Delphic or more Odyssean. The existence of expressions such as ‘conditional on the economic outlook’ or ‘the committee currently anticipates’ softens the degree of commitment, making the forward guidance more Delphic.

State-dependent forward guidance specifies how monetary policy will be adjusted based on new economic information. Coenen et al. (2017) provide as an example the statement by the Fed issued in December 2012, where the FOMC informed that it intended to keep interest rates unchanged as long as the unemployment rate was below 6.5%, inflation forecasts were within a certain range, and inflation expectations were well anchored. According to the authors, in order to achieve the best results, state-dependent forward guidance should be consistent with the central bank's mandate and be based on a set of indicators that delivers robust results and is reliable, available in real time, easy to communicate, and independently verifiable. According to Coenen et al. (2017), this kind of forward guidance should be expected to have the best results.

## 6. TRUST AND COMMUNICATION IN NON-STANDARD TIMES

Effective communication requires trust. If economic agents do not trust in what the central bank declares, then the communication can hardly help the central bank in stabilising the economy. The need of trust is the more required, the less room for policy manoeuvre the central bank has, because it has then to rely more on communication (as shown in previous sections).

Even though public trust in the central bank is of crucial importance for its ability to stabilise the economy—especially in non-standard times—when the ELB binds, there is no developed theory of trust in the central bank during a crisis in economic literature. Even the issue of credibility, which is related to trust (see, e.g. Barro and Gordon, 1983), largely disappeared from the research agenda of economists once a theoretical solution to the problem of the time inconsistency of price stability—that is, the acknowledgement of a central bank's independence—started to be commonly used in practice.

The vast majority of papers, which provide theoretical support for non-standard monetary policy measures in general and forward guidance in particular, assume that a crisis and an ELB becoming binding leave trust in the central bank unaffected (Levin et al., 2010). However, this assumption can be questioned.

A crisis can undermine trust in the central bank in two ways. Economic agents can blame the central bank either (i) for the crisis' outbreak or (ii) for an inappropriate reaction to the crisis, resulting in a deepened or protracted recession which could otherwise be shallower or shorter (see Issing, 2012). Both situations find some support in empirical studies (see, e.g. Bursian and Fürth, 2011; Ehrmann et al., 2012; Farvaque et al., 2011; Fischer and Hahn, 2008; Gros and Roth, 2010; Kadilli and Markov, 2011; or Wälti, 2012).

Situation (i) can arise in three cases. First, when economic agents are unable to recognise the causes of the crisis, their overall trust in public institutions—the central bank included—may fall. Second, economic agents could perceive the central bank as being powerful enough to prevent the crisis. Thus, the outbreak of the crisis forces them to revise their view on the central bank's power, previously over-estimated. Third, they may have a specified image of the causes of the crisis and consider the pre-crisis monetary policy to have contributed to the outbreak.

The first two cases are likely to reduce the effectiveness of the central bank's communication, including forward guidance. The third case may constrain monetary policy even more. Some economic agents may conclude that the central bank's interest rates, lower than before the crisis (the previous ELB), will again lead to a crisis. The outbreak should also make them aware of the scale of the detrimental effects of the crisis on aggregate demand. In such a case, forward guidance aimed at convincing them that interest rates will stay very low for an extended period risks entrenching pessimism.

Situation (ii) can arise irrespective of the central bank's response to the crisis, if this response does not sufficiently accommodate the shock caused by the crisis. Economic agents could blame the central bank for being too cautious, if it kept some powder dry. Otherwise, it could be blamed for getting rid of ammunition. In both cases, forward guidance aimed at convincing economic agents that a given policy will be run for an extended period would risk being perceived as a signal of the central bank's persistent inability to respond adequately to the crisis.

A crisis may limit the central bank's ability to effectively manage expectations not only when it hits its reputation, but also when its reputation remains high. There are two possible reasons for this: the central bank's information advantage over economic agents and the time inconsistency problem. In both cases, trust in the central bank, although unaffected by the crisis itself, may be weakened by the non-standard monetary policy measures undertaken in response to the crisis. Although the problem is



empirically under-researched, Albinowski et al. (2014) show that it does not necessarily have to be only a theoretical peculiarity.

Theory implies that if an economic downturn is caused by a non-fundamental shock in confidence and the central bank is considered to have an information advantage over economic agents, then non-standard monetary policy measures may validate pessimistic expectations. As a result, the central bank, in spite of these measures (or rather due to them), may appear incapable of restoring confidence (Benhabib et al., 2001 and 2002) or even lowering the unemployment which increased during the crisis (Schmitt-Grohé and Uribe, 2012). The appropriate reaction of a central bank to such a lack of confidence shock would be to abandon any standard policy rule (most often exemplified by the Taylor rule—see, first and foremost Taylor, 1993) and to set the policy rate clearly above the ELB.

This situation can be considered a special case of the problem that Amato et al. (2002) draw attention to. They point out that expectation management by the central bank may reduce social welfare, if economic agents attach excessive weight to central bank communications at the expense of their own information. The practical significance of this problem has been the subject of great criticism (Blinder et al., 2008). In particular, it was considered unrealistic to assume that the central bank may hide important information from economic agents (Gosselin et al., 2007).

The time inconsistency problem arises when the central bank commits not to raise interest rates over a certain period, once the ELB ceases to bind (Rajan, 2013). Fulfilling this commitment would require the central bank to pursue a suboptimal monetary policy. The central bank, keeping a real interest rate below the natural interest rate, once the ELB ceases to bind, would allow: aggregate demand to increase over potential output and inflation above the target. Thus, the central bank would consciously push the economy out of a state where, according to the NK analytical framework, households achieve the highest utility and firms make the largest profits.

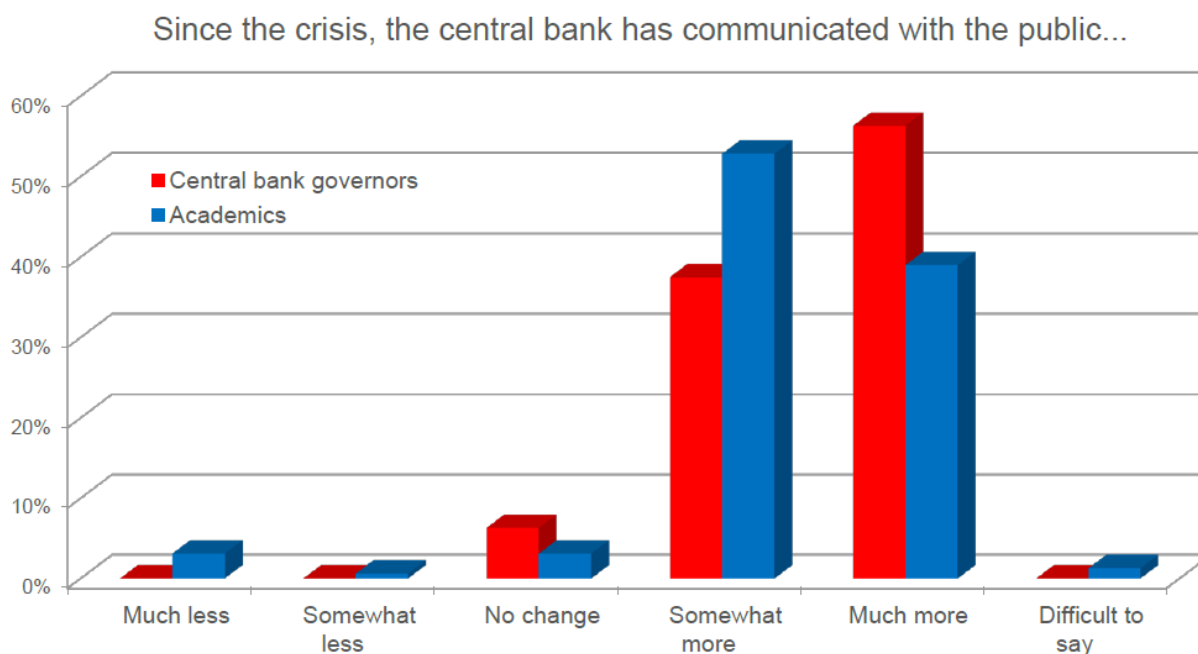
It is unlikely that the central bank's commitment to run a policy opposite to the one on which it has built its reputation could be perceived as credible and have no negative effect on its reputation. Two other scenarios seem more likely. The commitment will not be perceived as credible. Alternatively, its fulfilment may be considered probable, but it will weaken trust in the central bank. In the first scenario, economic agents may conclude that the central bank is powerless or pessimistic. In the second scenario, the inflation target could cease to be the nominal anchor (used, for example, for indexing prices by some companies). The NK analytical framework indicates that in such a situation, deflationary pressure would intensify and a negative output gap would deepen when the ELB binds. In turn, once the ELB ceases to be binding, there would be a rapid increase in inflation. Lowering it would require aggressive interest rate hikes.

All in all, these considerations suggest that central banks have had good reasons to use Delphic rather than Odyssean forward guidance, even though according to the previously recalled simulations based on standard monetary policy models the latter should be more effective than the former.

## 7. COMMUNICATION OF NON-STANDARD POLICY BY MAJOR CENTRAL BANKS. COMMUNICATION TOWARDS MONETARY POLICY NORMALISATION

The use of non-standard monetary policy tools required additional communication efforts from central banks, as economic agents had no historical experience with these tools and were therefore unable to predict future monetary policy based on the central banks' current decisions and new economic data. The data shows that central banks indeed increased their communications efforts. Figure 6 shows the results of a survey of central bank governors and academic economists regarding the intensity of central bank communication. What is worth noticing is that on 19 February 2015, the ECB started to publish minutes, which was long expected, as it is a standard practice of central banks in advanced economies.

Figure 6: Results of the survey regarding the intensity of central bank communication



Source: Blinder et al. (2017).

Coenen et al. (2017) report several changes in the way central banks communicated after the crisis. According to these authors, central bank communication became somewhat more dispersed, which is a result of higher complexity in the policymaking process and greater disagreement regarding conducting monetary policy. They also argue that central banks' statements became more forward-looking. In many cases, statements became longer and the difficulty of the language used increased as compared to before the crisis.

The authors present evidence showing that ECB press conferences had a significant impact on financial markets. On press conference days, market uncertainty generally declined, especially in response to APP announcements. One exception was a press conference on 2 October 2014, when market uncertainty increased due to investor disappointment over a lack of hard figures on the size of the APP.

This example shows how important it is for central bank communication to be as detailed, precise, and unambiguous as possible.

Another example of poor central bank communication was the testimony of Ben Bernanke, the Chairman of the Fed, before Congress on 22 May 2013. Bernanke said that the Fed might scale down asset purchases during one of the next meetings if it sees signs of sustained economic growth. As a result, yields of 10-year government bonds increased significantly (from 2% to 3% over a period of a few weeks).

On the contrary, an example of an excellent central bank communication was the famous statement by the President of the ECB, Mario Draghi, at the bankers' forum in London on 27 July 2012. The eurozone was in the middle of a sovereign debt crisis, and the yields of the bonds of several euro area Member States were at levels impeding their access to capital markets. Mario Draghi said that the ECB will do 'whatever it takes' to maintain the stability of the eurozone. The reaction of the financial markets was very strong and positive—yields decreased significantly, despite the fact that the ECB did not actually intervene in the market. This is very strong evidence that central bank communication can be a powerful monetary policy tool.

Coenen et al. (2017) write that the track record of forward guidance as implemented in recent years is mixed, but that there is evidence showing that forward guidance had an effect on medium- and long-term interest rates. The authors also argue that the specification of the forward guidance affects its effectiveness. In short, we say that forward guidance is more effective when it is state-dependent and covers a longer time horizon than if it is short-term or open-ended. Importantly, the empirical analysis performed by Coenen et al. (2017) shows that the existence of the APP considerably strengthens the effectiveness of forward guidance.

Communication regarding monetary policy normalisation is probably the most difficult task when it comes to central bank communication. The experiences of the Fed show that financial markets can react very strongly to information about policy normalisation and that improper communication can significantly increase volatility in financial markets.

The Fed is, at this moment, quite advanced in its monetary policy normalisation. It terminated its QE programme in October 2014 and the FOMC raised its target federal funds rate for the first time since the crisis on 17 December 2015. Since then, the FOMC increased its main interest rate six more times, to 1.75-2.0%, and further increases are expected.

After the unfortunate testimony of Ben Bernanke before Congress on 22 May 2013, we observed an elevated level of financial market volatility, often referred to as a 'taper tantrum'. In September 2013, the Fed decided to delay the tapering of the QE, stressing the state-dependency of its future actions. Later, the FOMC outlined its approach to monetary policy normalisation after its September 2014 meeting in a document 'Policy Normalization Principles and Plans'.<sup>11</sup> More details were later released after the March 2015 meeting and, in December 2015, it raised interest rates for the first time since the crisis. In June 2017, the FOMC announced additional information regarding its plan to gradually reduce its securities holdings. Coenen et al. (2017) argue that some market volatility was probably unavoidable, as financial markets will always react strongly to shifts in policy stance, but the American experience shows that central bank communication regarding monetary policy normalisation should be as precise as possible and that the central bank should be very clear about the state-dependency of its plans.

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<sup>11</sup> [https://www.federalreserve.gov/monetarypolicy/files/FOMC\\_PolicyNormalization.pdf](https://www.federalreserve.gov/monetarypolicy/files/FOMC_PolicyNormalization.pdf).

## 8. SUMMARY AND CONCLUSIONS

Communication is an important monetary policy tool. Since economic agents make their decisions based not only on the current situation but also based on their expectations regarding future economic developments, the central bank can increase the efficiency of monetary policy by managing their expectations. Central bank communication is especially important in times of non-conventional monetary policies due to the elevated level of economic uncertainty and the introduction of new policy tools, the functioning of which needs to be properly explained to economic agents.

Forward guidance is a communication tool. It provides information about the central bank's intentions with regard to future monetary policy. Initially, it referred to the expected path of the central bank's interest rates, but later it was expanded to include QE. Forward guidance is aimed at managing economic agents' expectations of how borrowing costs are likely to develop in the future relevant to their economic decisions. By lowering medium- and long-term interest rates, forward guidance can boost aggregate demand.

There are several types of forward guidance discussed in economic literature. Odyssean forward guidance is the commitment of the central bank to follow a certain path of monetary policy, even if optimal policy would require re-optimisation in the future. Odyssean forward guidance allows for a mild and transitory overshoot of output and inflation that normally would not be allowed by the central bank. Delphic forward guidance is the central bank's communication regarding what is the most likely path of future monetary policy. Delphic forward guidance requires the publication of the central bank's forecasts and its primary purpose is to communicate the central bank's reaction function to financial markets. Standard monetary policy models indicate that Odyssean forward guidance is more effective in closing the inflation and output gaps than Delphic forward guidance. However, these models don't take into account that a crisis (or central bank's response to the crisis) can have an adverse effect on trust in the central bank, thereby reducing effectiveness of any monetary policy actions.

State-dependent forward guidance specifies how monetary policy will be adjusted based on new economic information. This type of forward guidance should be consistent with the central bank's mandate and be based on a set of indicators that delivers robust results and is reliable, available in real time, easy to communicate, and independently verifiable. This kind of forward guidance is expected to have the best results in the real world, as many economists are sceptical about the ability of the central bank to convince economic agents that it will follow the path of monetary policy outlined in purely Odyssean forward guidance.

Communication regarding the future normalisation of monetary policy will be a significant challenge for the ECB. The normalisation of monetary policy encompasses terminating QE (which has already started), increasing interest rates above the ELB observed prior to the GFC, and downscaling the ECB's balance sheet to the pre-crisis level. The experiences of the Fed highlight the importance of precise communication. Ineffective or imprecise communication can result in an increase in financial market volatility. The American experience suggests that the central bank should be very explicit about the state-dependency of monetary policy normalisation.

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**Questions:**

- 1) What is the ECB's communication strategy regarding exiting non-standard monetary policy measures?
- 2) How does the ECB ensure the coherence of its communication regarding the use of non-standard monetary policy tools?
- 3) What were, if any, the mistakes of the ECB when it comes to communication regarding the use of non-standard monetary policy instruments?



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Communication is an important monetary policy tool, as central banks can use it to manage the expectations of economic agents. Communication becomes even more important in times of non-standard monetary policies due to increased levels of uncertainty and the introduction of new policy tools. In this paper, we summarise the literature on central bank communication in times of non-standard monetary policies, with a particular focus on forward guidance.

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