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Redefining the Role of Central Banks

SUMMARY: The 2008 global economic crisis has brought about a fundamental change in economic policy thinking. After the crisis, central bank roles have changed and central banks are actively seeking their role in this new era. Besides the reconsideration of specific policy measures, it is a fundamental element of the renewal of central banks to reassess the central bank philosophy underlying monetary policy. This study is intended to examine the change in monetary policy thinking based on the economic policy stance taken by major central banks in the aftermath of the crisis. In addition, it presents the theoretical correlations of the changing role of central banks through post-crisis measures.¹

KEYWORDS: central bank, crisis, role of central banks, history of economics

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The 2008 global economic crisis has brought about a fundamental change in economic policy thinking. The neoliberal model that defined the earlier period was gradually replaced by a new model that brought into the limelight the concept of a knowledge-based economy. Since the 2008 crisis, the banking system has continued to undergo changes throughout the world, and a uniform trend appears to be developing, despite the presence of national regional specificities. Essentially, this trend involves the appearance of a new banking culture that stands in contrast to the previous neoconservative/neoliberal era, along with the central bank and bank regulatory behaviour that fosters this banking culture.

The changing role of the central banks and the efforts to reform them in the wake of the 2008 crisis can also be understood from this perspective. Besides reconsidering specific policy measures, re-visiting the philosophy and the conceptual framework that underlie

central bank policy is a fundamental element of this renewal (Shirakawa, 2010).

Monetary policy thinking has also undergone changes, and this shift is best understood by looking at the stance adopted by major central banks such as the Federal Reserve, the European Central Bank, the Bank of England or the Bank of Japan. This shift has three characteristic factors:

- A reform of commercial banking culture;
- Stepping up the provision of information to market stakeholders; and
- Opening toward the corporate sector (Pesuth, 2014).

One of the elements of the 2008 crisis, perhaps inadequately recognised in Hungarian literature, is that medium and long-term considerations started to visibly dominate short-term ones in central bank governance. This is also corroborated in a Group of Thirty study, which stresses, that central banks should avoid fine-tuning policies (G30, 2015, p. 1).

Needless to say, responses to the 2008 crisis are also important, and they lend themselves

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to multiple grouping options. However, I consider the change in the general characteristics of central banks' role to be more relevant. This changing role is described most poignantly by Professor *Harold James* from Princeton:

"In a sense, central banks have begun to resemble medieval philosophical faculties, with discussions addressing the issues underlying policy decisions, rather than just the policies themselves" (James, 2014).

A HISTORICAL APPROACH

The theoretical history approach is one of the emphatic elements of the philosophy shift in central banking. Its practical relevance was pointed out by Israeli-American central banker *Stanley Fischer* at a lecture at Oxford University:

"I think I learned as much from studying the history of central banking as I have from knowing the theory of central banking, and I advise all of you who want to be central bankers to actually read the history books" (Fischer, 2013).

The historical approach does not mean mulling over the past. As opposed to a unilateral mathematical orientation, it extends the examination to the temporal and cultural determination of development laws as well. Grasping the significance of this is only possible relative to the practices seen in the last twenty–twenty-five years, when many said that central bank decisions could be substituted with various mathematical formulae and automated mechanisms. Likewise, *Bánfi et al.* (2013, p. 223) highlight that, for instance, *"the application of inflation targeting has made monetary policy excessively simple, or even primitive."* I wish to emphasise that I am not denying the relevance of mathematical analysis; indeed, I am convinced of its utility and importance. I merely propose arguments against its one-sided application.

A short overview of central bank history

Goodhart's (2010) study is a good example of eliminating the one-sided bias, as it identifies three core tasks that central banks have in the historical context. According to him, Central banks have to:

- Maintain price stability;
- Maintain financial stability and foster financial development; and
- Support the state's economic policy at times of crisis or to constrain the misuse of the state's financial powers.

Based on the dominant function, Goodhart distinguishes three key epochs in the history of central banks:

- The Victorian era (1840s–1914);
- The decades of government control, (1930s–1960s); and
- The triumph of the markets (1980s–2007).

Table 1 shows the general and fundamental characteristics that central banks had in the various epochs.

Transitional periods that separated these epochs – such as the one in which we currently find ourselves after the 2008 global economic crisis – typically saw central banks seeking their role (Goodhart, 2010).

Shirakawa identifies two important tasks related to the 2008 crisis:

- Firstly, setting the economy on a sustainable growth path;
- Secondly, preparing measures to prevent the recurrence of such crises (Shirakawa, 2010).

Examining central bank history, however, one can conclude that ever since the foundation of central banks about three centuries ago, the ultimate goal of central banks has been to support sustainable economic growth by seeking to achieve price and financial stability. The weight of the two intermediate goals, however, has changed from time to time. Initially, financial stability enjoyed primacy, while price

Table 1

CENTRAL BANK EPOCHS		
Period	Name of Period	General features of central banks' role
1840–1914	Victorian	<ul style="list-style-type: none"> • Establishing financial stability • Central bank rules usually observed rules of thumb
1930–1960	The decades of government control	<ul style="list-style-type: none"> • Advice on economic policy • Administration of the system of controls • Management of markets
1980–2007	The triumph of the markets	<ul style="list-style-type: none"> • Inflation targeting, as a system, becomes emphatic

Source: created by the author based on Goodhart (2010)

stability became the most emphatic criterion before the outbreak of the 2008 crisis, and thus it also entailed a relatively short-term policy horizon (G30, 2015, p. 1).

The financial system continued to remain fragile following the 2008 crisis, not only because of the inherited debt portfolios, but also because of the architecture of the system itself. Serious professional debate emerged regarding the role of central banks, and additional differences in opinion must be reckoned with in terms of the role they play in financial stability (Praet, 2011).

Thus, the financial stability perspective once again became emphatic after the crisis, with achieving and maintaining financial stability serving as important goals. As Goodhart (2010) pointed out, the 2008 crisis demonstrated that maintaining price stability through the base rate cannot lead to financial stability in general. However, the problem does not lie in the base rate and the inflation targeting regime itself; its main source is the lack of other macroprudential measures.

In connection with the role central banks play in establishing financial stability, *Peter Praet* – member of the European Central Bank’s Executive Board – emphasises that developing a separate macroprudential function is one of the main elements of the wide ranging policy reforms implemented in pursuit of

financial stability related goals. By taking a system-wide perspective, the macroprudential directive complements microprudential oversight (Praet, 2011).

Developing this macroprudential function, however, is still a work in progress, and there are different positions as to how to design such a framework, and what role central banks should play in it. In Praet’s view, designing the framework is hampered by several factors:

- Firstly, contrary to price stability, it is difficult to define financial stability in an operational way;
- Secondly, there are numerous authorities involved – central banks, banking supervisions, insurance supervisors, market supervisors, competition authorities, consumer protection authorities, ministries of finance, ministries of justice, resolution authorities – along with a variety of potential tools which may be considered for achieving the goal (Praet, 2011).

At the same time, Goodhart (2010) calls attention to the fact that if supervising the stability of the financial system is a central bank task, then the role of central banks might be in conflict with the government’s economic policy in several points. *Table 2* shows a summary of the areas in which central bank operations can interact with a government’s economic policy.

Goodhart believes that the shift towards the new – macroprudential oversight – epoch increases the likelihood of

- More in-depth regulations;
- Greater government involvement; and
- Less reliance on market mechanisms (Goodhart, 2010).

Examining the macroprudential role would require a dedicated study; this article can only refer to the direct relationship it has with banking culture. Macroprudential regulation is aimed at the reduction of market level risk, and seeks tools that facilitate this goal. The definitive regulatory logic of the previous epoch was directed at segregating the regulation of various market players from that of the market as a whole. This approach has failed, and it was replaced by efforts to combine the two. However, this does not only mean that the two regulatory authorities merged, but it also resulted in an institutional change whereby they make financial market participants perceive, in a more direct way, the impact of their decisions on market-level risk as a whole. This, in turn, is banking culture itself, since by definition, culture is the omnilateral examination and knowledge of each decision. Accordingly, macroprudential stability is achieved through

the systematic operation of the financial institutional system, and not merely as a result of central bank regulation.

CHANGES IN THE CENTRAL BANK TOOLKIT

Below we summarise the measures of central banks in advanced market economies on the basis of the approach taken by the G30 study. Measures after the 2008 crisis are classified into three categories:

- Measures affecting rates set by central banks;
- Forward guidance; and
- Measures affecting the size and composition of central bank balance sheets (G30, 2015, p. 26).

The new rate policy

Central banks in advanced market economies eased monetary conditions significantly. *Figure 1* shows the evolution of central bank base rates in advanced market economies. In the context of post-crisis rate policies, the

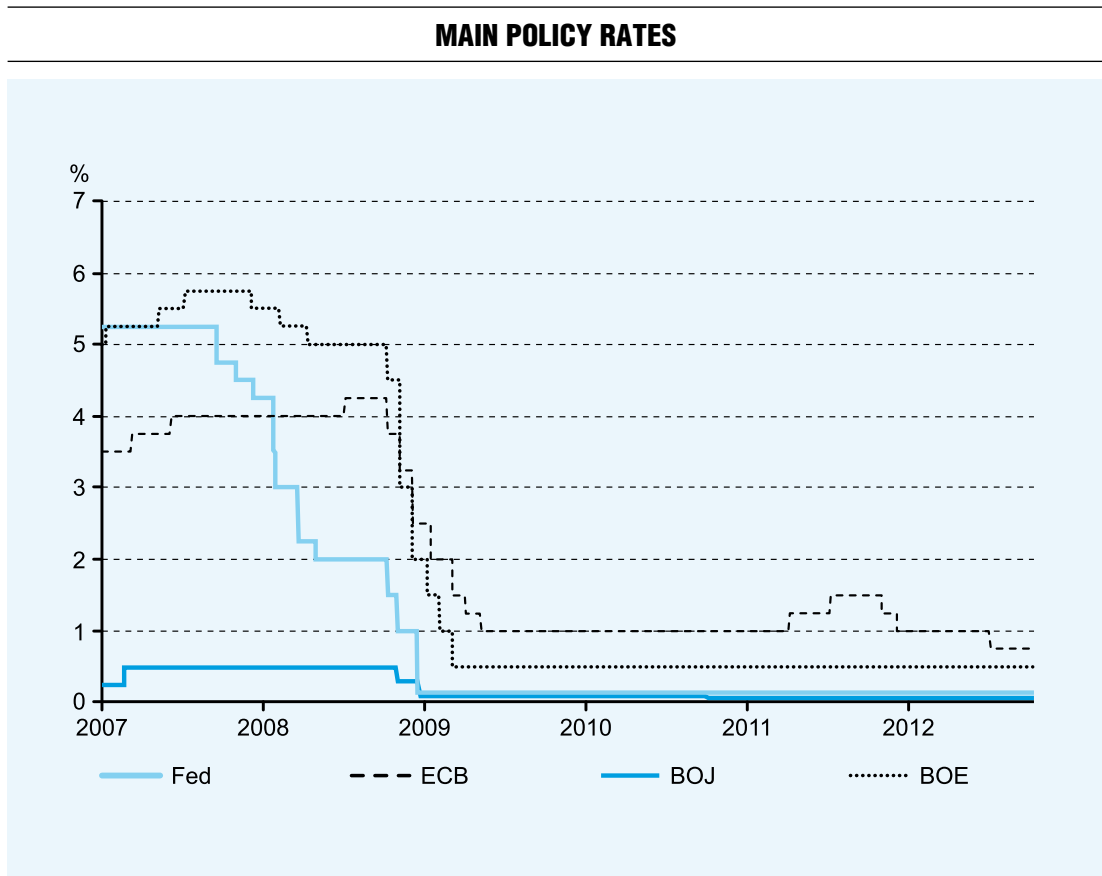
Table 2

THE INTERACTION OF CENTRAL BANK OPERATIONS AND GOVERNMENT

Area	Feature
Bank taxes	Since the application of bank taxes greatly influences the stability of the financial system, the central bank also needs to participate in determining their rates.
Administration of sanctions	The Basel Committee on Banking Supervision did not create a satisfactory system for imposing sanctions on banks that fail to meet the capital requirements; consequently, national governments and central banks must cooperate in enforcing them.
Debt management	The effective combination of successful fiscal policy and expertise in market intelligence was necessitated by the debt crises emerging after 2008, increasing the role of central banks in managing sovereign debt.
Bank resolution	Governments must be given an insight into resolution processes.

Source: created by the author based on Goodhart (2010)

Figure 1



Source: Fawley – Neely (2013:56)

Group of Thirty stresses that the rate decisions adopted by central banks in developed economies were more extreme, more rapid and more internationally coordinated than in any other – post World War II – cycle (G30, 2015, p. 26).

The Fed’s rate cuts at the end of 2007 and in early 2008 were followed by similar moves by major central banks, barring the European Central Bank. In order to restore its own short-term credibility and reflecting concerns about rising inflation, the European Central Bank had raised its policy rate just before the onslaught of the crisis, then did so again in 2011, in the face of what seemed to be significantly improving European growth prospects. However, it quickly reversed course as the

Greek crisis erupted. On top of that, the ECB was the first of the major central banks to introduce a negative interest rate on commercial bank reserves held by central banks within the system, thus providing a strong incentive for more bank lending (G30b, 2015, p. 27).

Rate policy can make its effects felt primarily by influencing expectations; thus any additional information provision role rate policy may have gradually narrows as options run out while it nears zero level, i.e. the bottom rate threshold. Major central banks attempted to ease prevailing monetary conditions further

- Through indications regarding how the future rate curve would develop, and
- By active participation in the government securities market (Bihari, 2015).

Forward guidance

“Forward guidance is providing information about future monetary policy decisions for the market” (Bihari, 2015, p. 754). It was the Fed that first used forward guidance as a tool of the new monetary policy that emerged in response to the crisis. In its statement of 16 December 2008, the Fed’s monetary decision-making body, the Federal Open Market Committee (FOMC) announced:

“The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. In particular, the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time. The focus of the Committee’s policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve’s balance sheet at a high level.” (FOMC, 2008)

After the Fed’s step, the practice of issuing forward guidance was also adopted by the Bank of Japan, the Bank of England, and finally the European Central Bank. In the ECB’s case, however, one must mention that after earlier eschewing its use, the ECB in the summer of 2013 also indicated its expectation that the policy rate would stay at a low level for an extended period (G30b, 2015, p. 28).

Following its meeting on 4 July 2013 the Governing Council of the European Central Bank announced that:

“The Governing Council “expects the key ECB interest rates to remain at present or lower levels for an extended period of time. This expectation is based on the overall subdued outlook for inflation extending into the medium term, given the broad-based weakness of the economy and subdued monetary dynamics.” (ECB, 2014, p. 65)

Csortos *et al.* (2014) present the practice of forward guidance during the crisis and its ex-

periences, using the Federal Reserve and the European Central Bank as examples. In their study, the authors highlight that the nature of forward guidance can be:

- forecast-based and
- commitment-based.

The key difference between forecast-based and commitment-based guidance is that the former involves the central bank disclosing information about the expected outcomes of its customary strategy (for example, about the most probable monetary policy reaction in the context of a forecast prepared on the basis of a given information base), whereas the latter aims to achieve its effects via the temporary suspension of the usual strategy (e.g. by keeping the key policy rate low, thus temporarily tolerating the loss of the inflation target) (Csortos *et al.*, 2014, p. 46).

After the 2008 crisis, major central banks applied commitment-based guidance. *Table 3* presents a summary of the Fed and ECB’s time-dependent forward guidance regarding the maintenance of policy interest rates at low levels.

Csortos *et al.* (2014:50) pointed out that in the Fed’s case, time-contingent/calendar-based forward guidance was replaced by state-contingent forward guidance in December 2012, *“which stipulated that an interest rate level near 0 would be maintained, subject to reaching certain explicit macroeconomic thresholds.”* According to what is known as the Evans Rule or the threshold rule, the Fed would maintain the low interest environment as long as the unemployment rate remained above 6.5 per cent, inflation did not exceed 2.5 per cent, and long-term inflation expectations remained firmly anchored. This so-called specified state-contingent commitment later – in 2014 – became open-ended (Csortos *et al.*, 2014, pp. 50–51).

In the case of the Bank of Japan and the Bank of England, on the other hand, forward guidance was state-dependent.

Table 3

THE FED AND ECB'S TIME-DEPENDENT FORWARD GUIDANCE	
Federal Reserve	Duration designation
<i>Open-ended (December 2008 – July 2011)</i>	
16/12/2008	"for some time"
18/03/2009	"for an extended period"
<i>Specified</i>	
09/08/2011	"at least through mid-2013"
25/01/2012	"at least through late 2014"
13/09/2012	"at least through mid-2015"
European Central Bank	Duration designation
<i>Open-ended (July 2013–)</i>	
04/07/2013	"for an extended period of time"

Source: created by the author based on Filardo and Hofmann (2014)

In their study, *Filardo and Hofmann* (2014) – researchers at the Bank for International Settlements – examined the effectiveness of the forward guidance applied by the Fed, the ECB, the Bank of Japan and the Bank of England. Forward guidance on policy rates can impact financial markets and the economy in three main ways:

- First, to the extent that the guidance implies an easier future monetary policy stance than expected by market participants, it should affect the level of future expected short-term rates as well as long-term bond yields.
- Second, to the extent that central banks provide greater clarity about the future path of policy interest rates, the volatility of market expectations of future policy rates should fall, possibly also compressing risk premia.
- Third, to the extent that the conditional nature of forward guidance highlights specific indicators, the guidance should make markets more sensitive to data releases related to these indicators and less sensitive

to other information (*Filardo and Hofmann, 2014, p. 42*).

Table 4 presents a summary of the results attainable through these three channels in the case of the Fed and the ECB.

While the effectiveness of forward guidance varies over time and by central bank, it should be stressed that credibility is the most important factor in the success of this monetary policy instrument. *Hofmann and Filardo* (2014, p. 38) also pointed out that for forward guidance to be effective, it must be seen as a credible commitment of the central bank, i.e. market participants must believe that the central bank will deliver on its guidance. Only then can the guidance have an impact on market players' expectations. The potential usefulness of forward guidance depends on whether or not it is:

- seen as a commitment by market players;
- clearly communicated by the central bank; and
- interpreted by market players in the way intended by the central bank.

Based on the above it is clear that forward

Table 4

THE EFFECTIVENESS OF THE FED AND THE ECB'S FORWARD GUIDANCES

	Federal Reserve	European Central Bank
Policy rate level	Short and long-term anticipated yields went down in the case of most announcements. Qualitative guidance had the greatest impact.	Guidance in July 2013 reduced one and two-year futures interest rates.
Volatility	Short-term expectations declined, longer-term ones moderated only slightly.	Short-term expectations declined, longer-term ones moderated only slightly.
Sensitivity	One-year futures yields responded to labour market news with less sensitivity.	It helped insulate European money market processes from the Fed's tapering-related communication.

Source: created by the author based on Filardo and Hofmann (2014)

guidance requires credible and transparent central bank operation. As the options of conventional rate policy ran out, forward guidance emerged to become a new monetary policy tool after the 2008 crisis for influencing expectations. Bihari (2015) believes that for the time being, it is impossible to decide whether or not this new monetary policy tool, used as a temporary substitute for rate policy, can compliment the latter, but in my opinion – taking into consideration the fact that the Bank of Japan had used this tool even before the crisis – it will remain a part of the monetary toolkit, although its significance might decrease.

One can add that forward guidance helped the financial institution system become standardised in the cultural sense by virtue of providing information. Firstly, because this central bank tool may only be successful if individual financial institutions and commercial banks are receptive towards understanding central bank level issues, and have the insight required for managing problems at the central bank and the national economy level, or even on a global scale. This points far beyond the criterion of selfishness.

Secondly, it implies reliance on a new tool:

persuasion. Previously, the role of central banks was typically that of administration; their decision-making was somewhat independent of financial actors, and they paid less attention to convincing them. This changed radically after the crisis: central banks became stakeholders in enhancing the culture of financial institutions.

Thirdly, this tool demands continuous and clear communication among the various players in the financial institutional system. Forward guidance is not simply communicating a decision; instead, it also involves partnership cooperation even if the central bank takes the leading role.

Measures affecting the size and composition of central bank balance sheets

The central bank toolkit and the role of its various elements can change from time to time. For instance, during the crisis, forward guidance achieved positive effects as a supplement to rate policy, but real economy-related aspects required additional central bank intervention, which had a significant impact on the size and the composition of central bank bal-

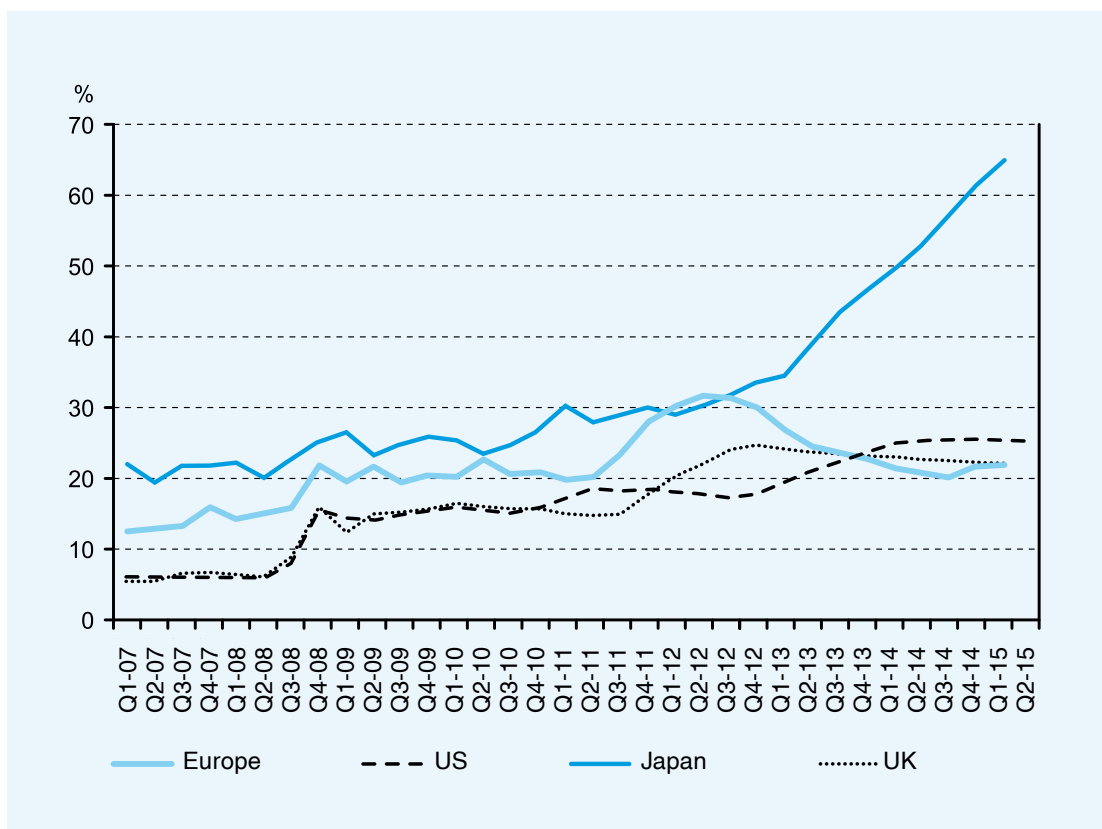
ance sheets. At the same time, this change in balance sheets was a consequence rather than a goal: the “by-products” of various central bank programmes – such as open-market operations, asset purchases, central bank liquidity measures – that central banks could put to use independently of and as a supplement to rate policy. In terms of their purpose, these measures were twofold. For one, they aimed to guarantee financial stability; on the other hand, they were intended to increase aggregate demand. With the exception of the Bank of Japan, this swelling of the balance sheet cannot be seen as an end in itself: it is rather a consequence of the measures listed above (G30b, 2015, p. 28).

Figure 2 shows how the balance sheets of major central banks – the central banks of advanced market economies – changed after the 2008 crisis. It demonstrates that the various central bank measures were unusually extensive in terms of their quantity and scale.

The bankruptcy of Lehman Brothers called into question the entire functioning of the banking system; indeed, the crisis of confidence developing in credit markets also caused a liquidity and credit crisis. Due to this lack of trust, banks essentially did not lend to each other in interbank money markets. This liquidity crisis also had an adverse effect on corporate and household lending. As a result of the credit crunch, the financial

Figure 2

CENTRAL BANK BALANCE SHEETS *



* As a Percentage of GDP, Q1 2007–Q2 2015t

Source: G30 2015:29

crisis started spill over to the real economy (Losoncz, 2009).

As lenders of last resort, central banks provided liquidity to commercial banks to eliminate the freezing up of interbank lending. The Federal Reserve's response to the financial crisis was aggressive; it adopted and implemented a number of programmes that sought to support financial institutions' liquidity and improve the conditions of financial markets. These programmes caused a significant change on its balance sheet. Moreover, central banks' direct financing programmes in certain secondary markets contributed both to guaranteeing financial stability and increasing demand, through different covered bond purchase programmes.

During the crisis, the ECB's monetary transmission channels were fundamentally disrupted by:

- Uncertainties related to bank balance sheets and the freeze in interbank lending;
- Sharply different interest rate conditions across Member States emerging in response to the sovereign debt crisis of the euro area.

The ECB faced a difficult task of restoring monetary transmission and maintaining price stability in these exceptional circumstances. However, the traditional monetary instrument – the main refinancing rate – could not affect other interest rates to the extent it did before; consequently, the ECB had to deploy a set of new tools (Szczerbowicz, 2012, p. 7).

The unconventional tools deployed by the European Central Bank in its crisis management measures are summarised, in a chronological order, in *Table 5*.

Of the measures listed in *Table 5*, the programme announced in January 2015 under the ECB's quantitative easing programme is considered to be the most significant.² By introducing this programme, the ECB simultaneously intended to foster economic growth

in the euro area and achieve the inflation target (i.e. contain the deflation risk). Under the programme, the ECB purchases government bonds worth EUR 60 billion a month through national central banks.

The table does not include two important rate policy-related unconventional measures mentioned earlier in this chapter:

- The forward guidance announced in July 2013; and
- The negative interest rate on commercial bank reserve deposits held by central banks, introduced in the spring of 2014.

The instruments applied by the Federal Reserve can be classified into three groups:

- Instruments associated with the lender of last resort role;
- Instruments providing direct liquidity to borrowers and investors in key credit markets; and
- Open-market operations that support the functioning of credit markets.

Instruments associated with the lender of last resort role are those providing short-term liquidity to banks, other depository institutions and miscellaneous financial institutions (e.g. investment banks, investment funds). The Federal Reserve had concluded currency swap contracts with a number of central banks in order to supply USD liquidity in their respective areas of competence.

The instruments and programmes included in the first two categories are presented in *Table 6*, with the date of the given programme's implementation shown in parentheses.

The instruments listed in the table enable the Federal Reserve to provide liquidity in case of financial stress. After the stress situation ended, the programmes were terminated in 2009 (MMIFF) and 2010 (PDCF, TSLF, CPFF, TALF).

The Fed's open-market operations were intended to push long term interest rates down, and to make financial conditions in the broad-

THE ECB'S UNCONVENTIONAL CRISIS MANAGEMENT MEASURES

Date	Measure
August 2007	Provide extra liquidity on an ad hoc basis. Provide USD liquidity under swap agreements with the Fed
October 2008	Extraordinary liquidity measures (weekly refinancing operations)
June 2009	Announcement of covered bond purchase programmes
May 2010	Introduction of the Securities Markets Programme (SMP)
December 2011	Support for bank lending activity and money market activity in the context of Long-Term (36-month) Refinancing Operations
August and September 2012	Introduction of Outright Monetary Transactions (OMTs)
June 2014	Introduction of Targeted Long-Term Refinancing Operations (TLTRO)
September and October 2014	Introduction of programmes aimed at purchasing private sector assets, particularly covered bonds and asset-backed securities
January 2015	Extension of the purchase programme to private sector assets (PSPP)

Source: created by the author

er sense as accommodating as possible, i.e. to make them support economic recovery, and – in line with the Fed’s twofold mandate – to achieve an appropriate level of inflation.

It is clear that the two leading central banks deployed these measures with a view to providing information to market participants (through forward guidance) and to opening toward corporations by facilitating corporate lending and encouraging the lending activity of commercial banks.

On the whole, in order to understand the changes in the central bank toolkit we need to examine the underlying baseline economic philosophy and its changes. After the crisis, but still before the establishment of the banking union framework, the European Central Bank was subject to significant changes, primarily in terms of its monetary policy and policy instruments. As Harold James pointed out, *“the ECB is recasting itself as the incubator of a new intellectual and philosophical synthesis”* (James, 2014).

THE ECB AS THE GUARDIAN OF FINANCIAL STABILITY

The ECB’s credibility has increased significantly since Mario Draghi delivered his speech at the Global Investment Conference in London on 26 July 2012. Draghi’s now famous and definitive message to market players was the following:

“Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough” (Draghi, 2012).

In his speech, as he readily acknowledged, Draghi in a sense also conveys a more political message to investors. The sentence has been widely analysed; I would only like to call attention to one aspect: namely, that Draghi found this to be enough. By saying this, he conveyed that the ECB was the guardian – and the ultimate institution – of European-level political/financial policy stability. No other political/financial policy institution is necessary; it is enough for the ECB to “do its job”, i.e. to fos-

ter the political/economic policy goal, Europe’s stability through financial policy instruments. Thus, he also made it unequivocally clear that financial policy is, above all else, policy implemented with financial instruments.

“When people talk about the fragility of the euro and the increasing fragility of the euro, and perhaps the crisis of the euro, very often non-euro area Member States or leaders, underestimate the amount of political capital that is being invested in the euro. And so we view this, and I do not think we are unbiased observers, we think the euro is irreversible. And it’s not an empty word now, because I preceded saying exactly what actions have been made, are being made to make it irreversible.” (Draghi, 2012)

It was not market movements that Draghi analysed in his speech, but political trends and aspirations. He distinguished two tendencies: one with a vested interest to maintain, the other to undermine European unity. Draghi made it clear that the euro and the ECB would support the former.

In a comment, Draghi confirmed that political union is an irrevocable element in the integration process. As he expressed:

“There is a common misconception that the euro area is a monetary union without a political union. But this reflects a deep misunderstanding of what monetary union means. Monetary union is possible only because of the substantial integration already achieved among European Union countries – and sharing a single currency deepens that integration...” (Draghi, 2015).

Draghi also emphasised that economic convergence among countries cannot be only an entry criterion for monetary union; it has to be a condition that is fulfilled all the time. *And for this reason, to complete monetary union we will ultimately have to deepen our political union further: to lay down its rights and obligations in a renewed institutional order.”* (Draghi, 2015)

Following the “whatever it takes to preserve the euro” speech, the ECB introduced the OMT Programme with the purpose of stabilising government bond yields in the peripheral countries of the euro area. And, by stabilising interest conditions, it contributes to preventing a further increase in the euro area’s fragmentation.

It is important to highlight the role of trust

Table 6

THE FED’S LIQUIDITY PROVIDING INSTRUMENTS

	Instruments associated with the lender of last resort role	Instruments providing direct liquidity in key credit markets
Programme	<ul style="list-style-type: none"> • Discount window facility • Swap agreements • TAF¹ (December 2007) • PDCF² (March 2008) • TSLF³ (March 2008) 	<ul style="list-style-type: none"> • CPFF⁴ (October 2008) • AMLF⁵ (September 2008) • MMLFF⁶ (October 2008) • TALF⁷ (November 2008)

¹ Term Auction Facility

² Primary Dealer Credit Facility

³ Term Securities Lending Facility

⁴ Commercial Paper Funding Facility

⁵ Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility

⁶ Money Market Investor Funding Facility

⁷ Term Asset-Backed Securities Loan Facility

Source: created by the author

in connection with Draghi's speech. Similarly, Zsolt Darvas pointed out that:

"The new magic wand of the European Central Bank (ECB), Outright Monetary Transactions (OMT), has so far resulted in the 2-year Spanish government bond yield falling from a 15-year record high of 6.9% in late July 2012 to below 3% in early September 2012" (Darvas, 2012).

Harold James (2014) stressed that:

"In the ECB, for example, a debate is underway to determine under which conditions deviation from fiscal orthodoxy might be stabilizing in the long term. How that debate is resolved could lead to a new kind of international cooperation."

CLOSING THOUGHTS

Numerous questions remain unanswered in connection with the role-seeking of the central banks,³ including the future of the unconventional tools described in this paper,

the extent to which they will be integrated into the monetary policy toolkit, as well as the role to be taken by central banks in financing government debt and the challenges arising as a result. Managing challenges will require more intensive cooperation among central banks at the national level (with national governments, particularly in the area of banking regulation) and at the international level (with other central banks, as well as other stakeholders in the international financial institutional system).

While no broad consensus seems to be forthcoming in answering the questions, the role of the central banks may continue to change in the new post-crisis era which, however, appears to have a uniform trend on certain issues. Their role will likely become wider; however, this also raises the problem of handling the potential "excess power" of central banks. Because of that, it is not only central bank roles that need to be redefined, but also the institution of central bank independence.

NOTES

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source of inspiration, which I also highly appreciate. The author bears all responsibility for any errors in the study.

² For more detail, see *Clayes et al.* (2015)

³ For greater detail, see for example, the International Monetary Fund study (*IMF* 2014)

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