

Working Paper

Unconventional Monetary Policy: Between the Past and Future of Monetary Economics

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Unconventional Monetary Policy: Between the Past and Future of Monetary Economics

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Abstract

In this paper we discuss some of the monetary policy issues that have involved major central banks worldwide since the 2008 financial crisis, and which remain open. We provide an excursus of the unconventional monetary policies adopted by central banks in the last decade, focusing on the European Central Bank and the Federal Reserve, and we discuss the rationale and efficacy of some unconventional monetary instruments, of inflation targeting and of central bank independence. We also provide a perspective on possible future developments of monetary policy. We argue that while unconventional monetary policy was useful, there is still ample space for improvement: in the recessions to come, unconventional monetary policy will need to be better coordinated with fiscal, micro- and macro-prudential policies to provide more inclusive results that might positively affect the real economy beyond the financial system.

Keywords: *unconventional monetary policy, inflation targeting, central bank independence.*

JEL Codes: *E51, E52, E58, E61.*

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They were supposed to be exceptional and temporary – hence the term “unconventional”. They risk becoming standard and permanent, as the boundaries of the unconventional are stretched day after day.

Borio and Zabai (2016).

1 Introduction

For contemporaneous monetary economists, the great recession will be remembered as the period when the common wisdom of monetary policy faced its greatest limitations. Indeed, during the liquidity trap phase that followed the great recession, interest rate adjustment policies proved to be completely ineffective. To react, major central banks – including the Federal Reserve (FED) and the European Central Bank (ECB) – have been compelled in designing new monetary policy instruments and in experimenting new monetary policy transmission channels. As a result, we distinguish between two classes of monetary policies (see [Borio and Zabai, 2016](#)): “conventional” *interest rates policies* and “unconventional” *balance sheet policies*. In this article we discuss about some open monetary policy questions. Following a chronological order, we begin from the past by providing an evaluation of the last decade events in Section 2. Moving to the present, in section 3 we discuss the economic rationale behind unconventional monetary policies and the extent to which they have affected the institutional arrangements of central banking activity. In section 4 we discuss possible future developments of unconventional monetary policies. Section 5 concludes.

2 Monetary Policy in the Great Recession

As soon as the financial crisis hit in the end of 2007, the FED intervened by lowering the main refinancing interest rate. Soon enough however – in the third quarter of 2008 – the Zero-Lower bound became binding. The FED responded then with Unconventional Monetary Policies (UMP) that increased the balance sheet of the central bank itself (see Figure 1). In particular, the FED adopted four tiers of Asset Purchase Agreements, beginning to acquire 175 Billion USD of obligations and other 1.25 trillion USD of guaranteed Mortgage Backed Securities from Freddie Mae and Freddie Mac in the 2008-2010 period (see Table 1). Then, in 2009 it also extended this program to other long-term Treasury securities, spending 300 billions USD. Furthermore in the 2010-2011 period, the Federal Reserve increased these acquisitions by 600 billion USD. Finally, starting from the end of 2012, when the Maturity Extension Programme¹ was reaching its expiration day, the FED started buying Mortgage Backed Securities and other Treasury securities at a monthly rate of 85 billions USD per month, until the end of 2014. It was just with the beginning of 2015, when the US macroeconomic statistics returned to more acceptable levels, that all these purchases stopped.

¹Another form of UMP. For information on the Maturity Extension Programme see <https://www.federalreserve.gov/monetarypolicy/maturityextensionprogram.htm>.

	US	EU
FP	ARRA (2009-2013): 0.8 trillions USD	SGP (2012-2014): inside 3% deficit
CMP	ZLB Since 2008-Q4 to 2015-Q4	ZLB since 2013-Q1 (still on-going)
UMP	APA1 (2008): 1.4 trillions USD APA2 (2009): 0.3 trillions USD APA2 (2010-2011): 0.6 trillions USD APA3 (2012-2014): 85 billions USD/month	CBPP1 (2009-2010): 60 billions Euro CBPP1 (2011-2012): 40 billions Euro APP1 (2015): 60 billions Euro/month APP2 (2016): 80 billions Euro/month
Outcome	ΔY (2016): 2.3% ΔP (2016): 1.1% U (2016): 4.5 (youth 10.4)%	ΔY (2016): 2.3% ΔP (2016): -0.2% U (2016): 9% (youth 20.9%)

Table 1: *Summary of policies and economic statistics in the US and the EU-19 in the last decade.* FP: *Fiscal Policy.* CMP: *Conventional Monetary Policy.* UMP: *Unconventional Monetary Policy.* Sources: CMP and UMP data have been drawn from FED and ECB websites for US and EU respectively; FP data have been drawn from BEA and Eurostat respectively; Outcomes have been drawn from OECD statistics

Following the lead of the Federal Reserve, also the ECB has introduced different forms of UMP. The very first actions had limited scope and modest size. However, the strength of UMP practices has been largely reinforced when the sovereign debt crisis affected several EU members between 2011 and 2014. During the 1st and 2nd Covered Bonds Purchase Programmes – which have respectively been implemented during the 2009-2010 and the 2011-2012 periods – a total amount of 100 billions Euro has been created by the ECB.² After March 2015, instead, the ECB has substantially strengthened the Quantitative Easing (QE) plan, and started acquiring around 60 Billions Euro per month of sovereign bonds, corporate securities, asset backed securities and other covered bonds. This plan has been further reinforced in 2016 and the acquisition of bonds has been augmented up to 80 Billions Euro per month. This plan is currently on-going.

All in all, the Federal Reserve total assets increased from around 1 trillion in 2007 to around 4 trillions today; similarly, the European Central Bank assets moved from 1.2 trillion in 2007 to around 3.5 trillions today (see Figure 1). However, the macroeconomic effects seem to be contrasting: while the UMPs apparently boosted the performance of the economy in the US, beneficial results for the EU are yet weak. In the view of the authors, this might relate to the fact that the crisis hit the American economy when the debt-to-GDP ratio was relatively low, and the QE has been combined with expansionary and strong fiscal policy – the American Recovery and Reinvestment Act that, as also reported by Guerini et al. (2017), increased the level of public debt but positively stimulated the economy (see also Table 1). Instead, most of the EU economies entered

²Notice that in the same period, the amount created by the FED with the APAs it has been around 20 times higher. See Table 1.

the crisis endowed with already high debt-to-GDP ratios; this, combined with the compliance to the restrictive fiscal policy regime imposed by the Stability and Growth Pact, might help explain the different outcomes (see [Wilson, 2012](#); [Conley and Dupor, 2013](#)).

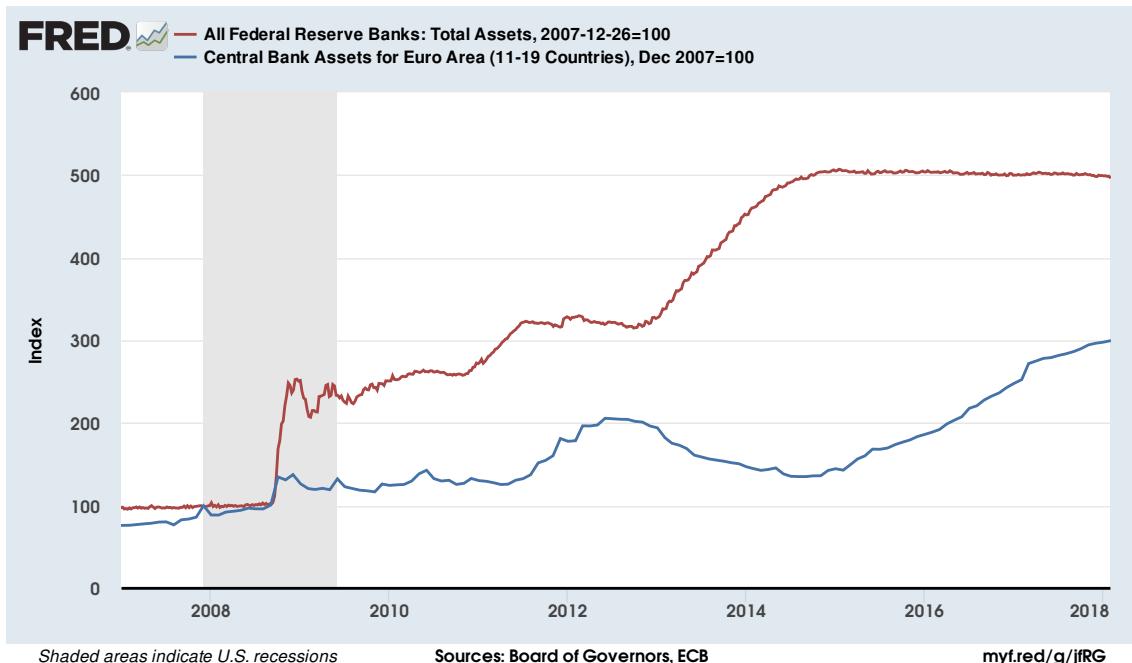


Figure 1: *Evolution of the asset side of the FED and of the ECB during the last decade. Source: FRED.*

3 Open Monetary Economics Questions

We now move to the discussion of three different aspects of contemporary monetary policy: (i) the theoretical arguments standing behind the UMP practices and their empirical evaluations; (ii) the inflation targeting objective; and (iii) how UMP might impact the institutional arrangements of the central banks and in particular their independence.

Unconventional Monetary Policy

Conventional monetary policy tools have been focused on fixing the optimal price of borrowing, with the final aim being that of directing the banks lending activity by which money is endogenously created and injected into the economic system (see [Lavoie, 1992](#)).³ In general, unconventional monetary policy tools, and the QE in particular, are instead instruments designed for governing the supply of credit when the optimal cost of borrowing is negative; they are supposed to be employed uniquely during liquidity trap phases, when the ZLB has been hit and the conventional price-based instrument becomes useless. With the QE, the central bank exogenously increases the monetary base by generating electronic cash and by providing liquidity to

³See also [Wicksell \(1898\)](#) and [Leijonhufvud \(1979\)](#).

the financial institutions in exchange of some long-living assets (typically a mix of government bonds and low-rated, high-risk corporate bonds). This shall in turn support the credit supply.

The set of economic hypotheses underlying the QE operations, claim that cleaning the balance sheets of the financial sector participants, and injecting fresh liquidity in the financial system, is extremely important to incentive the banks in the acquisition of newly issued securities. And this growth in the demand for non-financial sector securities, increases the inflationary pressures on the asset prices of non-financial corporations and lowers the long-term yields (step 1). Such a drop in long-term yields shall increase – in turns – the demand for credit and private non-financial investments, stimulating economic growth and inducing some inflationary pressures (step 2) on commodity prices. Furthermore, as the theoretical arguments continues, if the QE is accompanied by forward guidance announcements aimed at improving the transparency of the central bank and at stabilizing the confidence of the institutional investors, the effects of QE can also become evident after few lags because of the effects brought about by the expectations channel (see [Altavilla and Giannone, 2017](#)).

From this set of hypotheses it follows why the empirical literature studying unconventional monetary policies has been focusing on the effects of QE, either on the long-term yields (step 1) or on macroeconomic fundamentals such as GDP and inflation (step 2). However, to identify causal relations between the QE and the economic outcomes by means of commonly available time series approaches it is an extremely difficult task. Researches and central bankers working in this domain have been mostly interested into event studies. Using such an approach, [Krishnamurthy and Vissing-Jorgensen \(2011\)](#), [Gagnon et al. \(2011\)](#), [Christensen and Rudebusch \(2012\)](#) and [Duca \(2013\)](#) provide a somehow converging evidence, validating the hypothesis that large asset purchases programmes have reduced long-term interest rates, preventing high liquidity premiums from depressing financial institutions and financial markets. [Swanson \(2017\)](#) instead, compares the effects brought about by forward guidance and large-scale asset purchases in the United States ZLB period (2009-2015) claiming that while the former is more effective in the short-run, the latter is a preferable instrument for the control of medium/long-term yields and for reducing interest rates uncertainty.

In general, there is quite a strong support for the evidence that most of effectively implemented UMPs had a positive effect on financial stability, by reducing both short- and long-term yields as well by increasing the liquidity of the financial system.⁴ These results provide support to the first step of the QE transmission mechanism.

Concerning the second step, some empirical evidence reinforces the idea that the adopted measures have generated positive returns for the real economy in the US (see [Kapetanios et al., 2012](#); [Baumeister and Benati, 2013](#); [Gambacorta et al., 2014](#); [Bhattarai and Neely, 2016](#)). However, many scholars are still doubtful on the claims provided by this second stream of research. [Borio and Zabai \(2016\)](#), for example, suggest the presence of a leak in the transmission of UMP measures

⁴For a critical review of the literature see also [Martin and Milas \(2012\)](#), who claim that only the very first wave of QE succeeded in decreasing the interest rates and that the effects on the real economy are instead in general very mild. See also [Gorodnichenko and Ray \(2017\)](#) and [Altavilla and Giannone \(2017\)](#) among the others.

from the financial sector to the real sector and suggest that these short-term positive effects will be likely vanishing in the long-run, when the cost-benefit of such policies will deteriorate. Rogoff (2017) claims instead that “many economists are rightly concerned that unconventional monetary policy tools are poor substitutes for conventional interest rate policy and might well have more side-effects”; this implies that there is the possibility that these new tools are only imperfectly capable of managing private demand for credit and in turn inflation and output.⁵

Inflation targeting

Nowadays approximately 60 central banks worldwide have an explicit Inflation Target (IT) that steers, alone or in combination with other objectives, their monetary policy decisions.⁶ The Federal Reserve and the European Central Bank belong to this list, but with a major difference: while the unique mandate of the ECB is that of price stability (pure IT), the goal of the FED is dual as it aims at pursuing price stability as well as full employment.

Empirical evidence has mainly been supportive on the effectiveness of the IT framework in achieving low inflation and anchoring inflation expectations (see Levin et al., 2004; Vega and Winkelried, 2005; Gürkaynak et al., 2010). However, it is worth noticing that many countries adopted IT as part of a broader political and economic reform, involving a reinforcement of the institutional structure of policy-making (for instance the Central Bank Independence). Furthermore, the improvement in the technical skills within the central banks, together with the increase in the availability and quality of macroeconomic and financial dataset that have accompanied the introduction of the IT, may also contribute to explain the amelioration in monetary policy outcomes after the adoption of IT.

The last great financial crisis has put the IT framework in the spotlight, increasing doubts on its optimal value and more generally on its validity as a meaningful target for monetary policy. Regarding the value, no economic research has convincingly determined the optimal inflation rate. Though, central banks – and in particular the FED and the ECB – have fixed target around the 2% level. In its early days, a low IT objective was justified by the willingness of reducing inflation and of managing expectations. However in the recent ZLB situation, such a relatively low target put some constraints to the real interest cuts, limiting the space of action of the central banks in their response to the economic slowdown.

A number of prominent economists have therefore advocated the need to increase the target, in order to reduce the constraints of the ZLB. Among them, Ball (2014) supports the increase of the target at 4%, claiming that the ease of constraints on monetary policy arising from ZLB would result in less severe downturns. Moreover this benefit would come at minimal cost, because 4% inflation does not harm an economy significantly. Also the former FED chairman Ben Bernanke claims that a rise of the IT should be a change to be considered by central banks’ policy frameworks, but he warns on the possible risks of higher inflation and instability of inflation

⁵The claim by Rogoff (2017) is however in contrast with the results by Peersman (2011) who finds that the transmission channels of balance sheet policies are similar to those of the standard interest rates policies.

⁶A full list of central banks’ inflation targets is provided in <http://www.centralbanknews.info/p/inflation-targets.html>

expectations.⁷ In addition, [Blanchard et al. \(2010\)](#) broached the idea that central banks should target an inflation rate of 4% during expansion periods, to leave more space for nominal rate cutting during recessions. But, a possible increase of the target above the current level could lead to old problems as well as to new ones: [Mishkin \(2017\)](#) states that raising the inflation target at the 4% level could jeopardize the hard-won success of reducing the inflation after the Great Inflation of the 1970s, with the result that there would no longer be a credible nominal anchor. Critics of the higher target level also claim that the 4% might create distortions in the economy and the costs might outweigh the intermittent benefits, which would eventually be obtained only from the ZLB not being binding in periods of strong distress.

IT seems to be an old solution to a new problem. In fact, central banks successfully reduced the inflation by means of a low IT in the 1980s, however they were not able to increase inflation towards its target in the aftermath of the crisis, especially in EU. Therefore, a discussion on the revision of IT should be kept open and find more space in the agenda, especially in view of future possible crises.

Central Banks Independence

The terminology Central Bank Independence (CBI hereafter) can take different nuances and can refer to different facets of central banking and monetary policy ([Balls et al., 2016](#)). A minimal distinction shall be done between the political and the operational independence. The first refers to the degree of influence which elected politicians have over the central bank; the second to the ability of the central bank to select and use monetary instruments with autonomy.

Since the late 1980s, in many advanced economies, the central banks are independent only in setting monetary policy objectives. The FED, for example, is an operationally independent government agency and the monetary policy decisions do not have to be approved by the President or by any legislative branch of the government. However, it is politically accountable to the public and to the Congress, which established maximum employment and stable prices as the key macroeconomic objectives.⁸ The ECB instead has been funded in 1998 as an operationally and politically independent institution.⁹

The main rationale behind CBI is that of enhancing the credibility of the commitment toward an IT-based monetary policy. As a matter of fact according to Bernanke “a central bank subject to short-term political influences would likely not be credible when it promised low inflation, as the public would recognize the risk that monetary policy makers could be pressured to pursue short-run expansionary policies that would be inconsistent with long-run price stability”.¹⁰

This consensus has been supported by strong theoretical and empirical foundations (see [Grilli et al., 1991](#); [Eijffinger and de Haan, 1996](#); [de Haan et al., 2001](#); [Klomp and de Haan, 2010](#)). In particular, the pre-crisis evidence indicated the importance of operationally independent monetary

⁷See <https://www.brookings.edu/blog/ben-bernanke/2016/09/13/modifying-the-feds-policy-framework-does-a-higher-inflation-target-beat-negative-interest-rates/>.

⁸https://www.federalreserve.gov/faqs/about_12799.htm

⁹It is forbidden for the ECB to purchase government securities on primary markets; before the crisis, it was forbidden also to carry out outright purchases of sovereign bonds on the secondary market.

¹⁰https://www.federalreserve.gov/news_events/speech/bernanke20100525a.htm

policy for developed countries (see [Cukierman, 1992](#)). However, as discussed in Section 2, the conduction of monetary policy in the aftermath of the great financial crisis has been different from a pure IT. Hence also the CBI (and in particular the political one) has been questioned: communications and a certain degree of coordination between central banks and governments became necessary. [Lavoie \(2017\)](#) argues that the crisis has highlighted the strict relation between governments and central banks for carrying out credit easing operations and that the independence of the central banks is “de facto” an illusion and should not become itself a goal. Furthermore, the costs of political independence at the ZLB can be high: while in “normal times” the central banks can do all the necessary to stabilize macroeconomic outcomes without involvement in fiscal matters or intervention from the governments, when the conventional interest rate based monetary policy is constrained by the ZLB, the central banks shall take aggressive unconventional monetary policy measures and coordinate with fiscal authorities on matters concerning economic stimulus and debt management reforms (see [Balls et al., 2016](#)).

Although the coordination with fiscal authorities might undermines the CBI on the political side, an operationally independent central bank would be free to coordinate with a finance ministry over the issues discussed earlier. Hence, the CBI should be assessed taking into consideration not only the objectives to be pursued, but also the macroeconomic background. Also, since the range of responsibilities of the central banks have been enriched – including mandates about financial supervision, financial stability, micro- and macro-prudential regulations matters – the need of a coordination between fiscal and monetary policies has become crucial. Inside this new institutional framework, the concept of central banks independence is continuously evolving and might be further revisited in the years to come.

4 The Future of Monetary Policy

With inflation targeting out of scope and the appropriate level of interaction and coordination between governments and central banks yet to be clearly defined, it is natural to wonder how the recently implemented UMP might influence the future arrangements of monetary policy.

With respect to the very first Quantitative Easing application (implemented by the Bank of Japan in 2001) the current waves of UMP do not differ much in the economic mechanisms that they move or the scope they aim at. The sharpest differences are that (i) as for today, they are lasting longer; (ii) they have been quantitatively more aggressive; and (iii) they have been applied by Central Banks of different countries, but not at the same moment. The QE cannot last forever, since it is grounded on the increase in the supply of money and on the storage of bad assets in the balance sheet of Central Banks; sooner or later Central Bankers will stop the practice and begin increasing interest rates.¹¹ The questions are therefore: When? How much? Where?

When? On one side, low interest rates allowed restoring the functioning of the interbank markets, guaranteeing the required flexibility for financial institutions to comply with micro-

¹¹The FED already moderately increased the main refinancing rate during the last year and already closed the Asset Purchases Programmes.

and macro-prudential regulations.¹² On the other side, low interest rates dampen profitability and creditworthiness of all financial actors facing maturities on the liability side of their balance-sheets that are much longer than those of the asset side (e.g pension funds and insurance companies, who have already expressed their concerns with respect to the current state of affairs [EIOPA, 2014](#)). The more the central banks will wait raising the interest rates, the more these institutions will be exposed, while the gains from stronger interconnections amongst financial istitutions are doubtful ([Battiston et al., 2016](#)).

How much? Increasing the interest rates is not immune to risks. Raising them would likely depress asset prices, which are day by day close to beat their historical record (at least in the US) at the moment the authors are writing, while the real economy is growing at far lower paces. On top of that, Exchange Trade Funds have dramatically increased in size during the last five years (see the report by [Ernst and Young, 2017](#)).¹³ In the hypothesis asset markets are in a bubble, what would the effect of a too sharp or too fast increase in the policy rates be? Should or should not a Central Bank lean against the financial cycle?

Where? Expansionary monetary policy affects the exchange rates via the relative amount of money denominated in domestic currency in the economy (see [Swanson, 2017](#)). Whether the Central Banks in major economies should coordinate in their prospective programs is an issue that, in our opinion, should be discussed. The recent history shows that they tend not to react simultaneously; this can be partly justified by the fact that their economies experiences remarkably different timings and that does not exist a unique well synchronized global business cycle. Still, how asynchronous programs affect the exchange rates and the real activities in different economies might deserve attention.

All in all, given that the UPM practices cannot last in the long run, what monetary policy should do in the next years remains the most important question. Having large trade-off to balance, it might happen that some of the practices that have been labelled as *unconventional* will instead become *conventional*; also, something that is still *unexplored* will be given the chance to become, at least, unconventional.

5 Conclusions

The wave of unconventional monetary policies implemented in the aftermath of the Great Recession was deemed to be exceptional and temporary, but it became long-lasting and influential, possibly modifying the very role of central banking. Balance sheet policies have a quasi-fiscal character and tend to cross the line between the government and the central bank. If a Central Bank actively engages into credit policies, it may be criticised for favouring one set of borrowers

¹²In contrast to US, interbank loans in EU have not declined during the QE and are close to the pre-crisis levels (see [Perillo and Battiston, 2017](#)), possibly reflecting a relatively higher profitability of loans within the financial system rather than outside.

¹³In the popular press see also <https://www.forbes.com/sites/greatspeculations/2017/08/23/record-inflows-boost-global-etf-assets-to-4-3-trillion-with-blackrock-leading-the-way>.

over another – a concern especially acute in the United States. And if it purchases government bonds on a large scale, it may be criticised for financing a specific government – a major concern in Europe. Leaving such critics aside, a more coordinated action between fiscal and monetary policies might be fruitful in the future, especially in the EU ([Pisani-Ferry and Wolff, 2012](#)) where the supranational institutional arrangements are yet far from being considered complete. Furthermore, the Great Recession underlined the need for Central Banks to account for systemic risks and financial stability, thereby strengthening the links between monetary, micro- and macro-prudential policies. In such a perspective, monetary policy is likely to be more active in the future than it was in the past; the hope of the authors is that the next waves of Unconventional Monetary Policies will learn from the last ten years of experiences and will be able to sustain firms and households rather than financial institutions, as transmission channels might be weak or even ineffective.

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