Ongoing Trends for Central Banks' Strategy

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Abstract: It is recognized that the global financial crisis, with its immediate influences, has led to major changes in the central banks' policy, but that longer-term effects have still put monetary policy strategies on important challenges related to the way in which they can be adapted to the post-crisis environment. This article aims at identifying options for the monetary policy strategy in the future, starting from highlighting the post-crisis adjustments of central banks' monetary policy. To this end, we apply the comparative analysis between central banks, both from developed countries and emerging ones. The results shows that although there is not a valid universal solution, the monetary policy strategies can be adjusted taking into account the features of both the forecast-inflation targeting strategy and the integrated inflation targeting strategy. The latter one implies to explicitly extend the central bank's responsibility by including the financial stability objective into the monetary policy strategy.

Keywords: unconventional tools; inflation expectations; nominal anchor; post-crisis period

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1. Introduction

The post-crisis period is marked by numerous challenges for macroeconomic policies, including for monetary policy. The frequent turbulences in the financial market, with their effects on the risk perception of the market participants (Lupu et al., 2016), uncertainties regarding the effects of the non-standard monetary measures, or those regarding macroeconomic perspectives, including the fear of deflation, represent at least so many challenges for the monetary policy of central banks. They are the effect of deeper imbalances reflected not only by the severity of the recession period after the global financial crisis and the subsequent persistently anaemic recovery, but also by the unbalanced post-crisis policy-mix, which has left the task to manage this burden to the monetary policy.

In the last decade, there has been a change in the position of central banks conduit,

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from an offensive one, driven by the important role played by these institutions in managing the adverse effects of the global financial crisis, to a defensive one, as an accommodation to the circumstances created by the complexity of the post-crisis challenges.

Empirically, there is a preference for the inflation targeting strategy as a monetary policy strategy of most of the central banks worldwide, this being grounded on the theoretical level, taking into account the avoidance of temporal inconsistency, the importance attached to the credibility and autonomy of the monetary authority, its focus on the formation of inflation expectations, the technical character of the pursued objective, etc.

With the global financial crisis, this strategy has often been criticized, and its strengths were questioned. The pressures came from those who considered that the inflation targeting strategy was the author of the crisis (Taylor, 2012), because it conferred a too eased character to the monetary policy by creating a favourable environment for the accumulation of imbalances in the 2000s (Borio and Lowe, 2002), but insufficient after this moment. Others, on the other hand, consider that this regime is just a "stander-by" of the crisis or even a "saviour" of the crisis (Banerjee et al., 2013), meaning that the inflation targeting strategy, by anchoring the inflationary expectations, would reduce the severity of the financial crisis effects.

The article starts from the features of the recent post-crisis period in the matter of monetary policy and from some observations on the inflation targeting strategy as a dominant monetary strategy adopted by most central banks in both developed and emerging countries. Based on the analysis of the reactions of these institutions to the problems encountered in the post-crisis period, several options are evidenced for central banks in order to respond to the new challenges. As an analysis period, the focus is on the recent post-crisis phase (after 2013), when, in most economies, the monetary policy has to manage the inflation's dynamics, persistently low (below the optimal level, the chosen target), under the difficult conditions related to a narrowed room for maneuver of the conventional monetary policy, as well as to the uncertainty about the effects of unconventional measures applied by many central banks. Given that the economic activity in many countries continues to decline, and the period of inflation under targeting is prolonged, there is a risk of affecting inflation expectations. In addition, many central banks operate in an environment of minimum interest rates, which may affect the credibility of the return strategy to the medium-term inflation target for anchoring inflationary expectations, another challenge for the monetary policy being the decreased sensitivity of these expectations to inflation surprises. The unconventional monetary policy measures adopted after the global financial crisis triggered the inflationary expectations (Cloyne et al., 2016; Hofmann & Zhu, 2013), but they

gradually decreased, which may indicate that the more recent monetary policy would have been less adaptable than thought.

2. Remarks on the Post-Crisis Monetary Policy Adjustments

Although there is no consensus on the generally favourable nature of the inflation targeting strategy (Reichlin & Baldwin, 2013), the recent experience of central banks shows that it remains a valid one in the post-crisis period. The success and credibility of the inflation targeting regime gained before the global financial crisis outbreak, created a large enough space for central banks to act aggressively during the crisis to stimulate the economies they represented by a series of countermeasures for the threats to the stability of the financial system (reduction of monetary policy interest rates, monetary and quantitative easing measures, foreign exchange swap operations, reduction of minimum reserves, etc.). The monetary policy framework, characterized by a high level of transparency, has ensured clearer communication of the decision-making motivations.

2.1. Nominal Anchor and Monetary Policy Objective

Medium-term inflation expectations that tend to decrease in the post-crisis period call for a more aggressive monetary policy approach. A credible and transparent arrangement in the direction of a temporary increasing of the inflation target level, but not too high, could provide an important condition for counteracting the deflation and recession risks by long-term reduction of real rates, even when nominal interest rates are at the minimum level (zero lower bond). This would lead to a revival of the demand and a return of the inflation rate at the target level, in a shorter time. Based on this reasoning, more and more central banks recognize the importance of the medium-term flexible inflation targeting strategy of some central banks (e.g. Australia) by allowing short-term inflation fluctuations. The target flexibility involves overtaking it in one way or another, facilitating the anchoring of the inflationary expectations in the medium term and reducing the uncertainty in the economy. In this context, the monetary policy option is aimed at pursuing the faster rise in inflation, with the expectation that it will mean a temporary overrun of inflation, and in the future the target will be pursued to be attained from that higher level. The Bank of Japan has such a strategy and the expected effect would be to improve the debt dynamics by boosting the nominal GDP and reducing debt levels as a share of GDP.

Some studies (Blanchard et al., 2010; Krugman, 2014) propose the shifting of the inflation target above 2% level, as an option to change the inflation target, thus giving the central bank the opportunity to introduce more incentives when needed. In theory, moving the inflation target to a higher level would reduce the constraints on the minimum interest rate threshold, but the benefits of a greater flexibility

could be overcome or even eliminated by the risks of rising inflationary volatility (Kryvtsov & Mendes, 2015), and "de-anchoring" of the inflationary expectations, thus increasing the risk of affecting the credibility of the central bank if the long-term targets are abandoned.

The analysis based on the annual reports of central banks indicates overall the maintenance of the nominal anchors and monetary policy objectives. The monetary policy adaptation in the post-crisis period was only slightly reflected in changes regarding either the nominal anchor or the monetary policy objective set out in the statute, and in the case of central banks that have adopted such changes, there is a preference for the inflation targeting strategy (see Table 1). Thus, the Bank of Japan adopted such an inflation targeting strategy in 2013 as part of a wider strategy to combat deflation (the so-called Abenomics program).

Without changing its dual responsibility for the monetary policy objective, the US Federal Reserve Bank has set a numerical inflation target that, although declared, is not considered an explicit nominal anchor.

Even among the emerging countries, there is a focus on the inflation targeting strategy. Thus, in February 2015, the Reserve Bank of India signed an agreement with the government that formally laid the foundations for an inflation targeting strategy[1], and the central bank of the Russian Federation adopted such a strategy in 2015.

Table 2. Features of monetary policy during post-crisis time

Central Bank from	Nominal Anchor/Strategy	Monetary Policy Objective (according to the Central Bank Statute)
Changes at the nominal anchor level		
Czech Republic (CNB)	inflation, CPI /FIT (since 2008)	Price stability, with secondary objectives
United States (Fed)	implicit/FIT (since 2012)	Price stability and full employment (dual mandate)
Japan (BoJ)	inflation, CPI /IT (since 2013)	Price stability
Russia (CBRF)	inflation, CPI /IT (since 2015)	Currency stability
India (RBI)	inflation, CPI /IT (since 2016)	Price stability
No changes at the nominal anchor level		
Canada (BoC)	inflation, CPI /FIT	Preserving the value of money and price stability
Australia (RBA)	inflation, CPI /IT	Preserving the value of money, full employment and welfare (multiple objectives)

[1] In June 2016, India formally adopted a flexible inflation targeting strategy, declaring the price stability (based on the CPI inflation target) as the primary objective of the monetary policy.

New Zeeland (RBNZ)	inflation, CPI /FIT	Price stability
Norway (NB)	inflation, CPI /FIT	Price stability
United Kingdom (BoE)	inflation, CPI /IT	Price stability, with secondary objectives
Switzerland (SNB)	implicit, inflation, CPI	Price stability, with secondary objectives
Sweden (SRB)	inflation, CPI /FIT	Price stability
Euro Area (ECB)	implicit/ non-IT	Price stability, with secondary objectives
Denmark (DNB)	exchange rate /ERT	Price stability
Brazil (CBB)	inflation, CPI	Domestic purchasing power
Mexic (BoM)	inflation, CPI	Domestic purchasing power
South Africa (SARB)	inflation, CPI	Currency stability
Turkey (CBRT)	inflation, CPI	Price stability
Poland (NBP)	inflation, CPI	Price stability, with secondary objectives
Romania (NBR)	inflation, CPI	Price stability
Hungary (MNB)	inflation, CPI	Price stability

Sources: Authors' compilation based on up-to-date information from the central banks websites

Notes: CPI=consumer price index; IT=inflation targeting; FIT=forecast inflation targeting; ERT=exchange rate targeting.

In recent years, an increasingly important role has been given to the economic forecasts, and this concern is also found in monetary policy strategies. Generally, inflation targeting central banks have been producing for a long time forecasts of inflation and output gap, but there are not many central banks that have reformulated their monetary policy strategy to capitalize on their own forecasts. They have an inflation-forecast targeting strategy. Unlike the common inflation targeting strategy, the inflation-forecast targeting strategy better describes the behaviour of the central banks that have a dual mandate and with a flexible inflation target, focusing on their own forecasts of inflation and the actions that they propose to follow to bring inflation back to the target in case it deviates. The central banks that adopted the forecasted inflation targeting use forecasting models to explain how they adjust their instruments to meet their inflation-output target. Therefore, the mandate of the central bank, whether explicit or implicit, is shared between these two objectives: although inflation control is the primary objective, another major objective is the output growth stability, especially under the conditions of the minimum interest rate threshold, and significant risks of lowering the long-term inflation expectations. The advantage of such a monetary policy strategy is, among other things, to provide more flexibility in achieving the target, given the wider spectrum regarding the central bank's actions, and this flexibility is all the more important in the context of a limited room for manoeuvre of the monetary policy rate. In the post-crisis period, the Fed has adopted such a strategy

(since 2012), and the Czech National Bank has improved it with the detailed disclosure of its forecasts, including the monetary policy rate (since 2008).

The credibility of the monetary policy decisions is also an important support for predicting inflation targeting as it may be easier to set the market expectations in the direction pursued by the central bank. This feature underpinned the adjustments made by central banks in Canada, the Czech Republic and the US to the instruments used to achieve the inflation target (exchange rate, forward guidance, quantitative easing). In the case of the Bank of Canada, the credibility regarding the inflation-forecast targeting strategy has successfully led to the successful depreciation of the national currency since 2014 to mitigate the impact of falling commodity prices on economic activity. (Clinton et al., 2015) The Czech National Bank pursued the depreciation of the national currency by capping the koruna exchange rate to euro in order to eliminate the risk of deflation, and the Fed, by quantitative easing and forward guidance measures since the adoption of projected inflation targeting, maintained long-term inflation expectations anchored at the 2% target.

One of the key elements of this strategy is the forecasting of an endogenous trajectory of the short-term interest rate and the anticipation of inflationary expectations. Central banks which have such instruments are those of Canada, the Czech Republic, New Zealand and Sweden. This type of strategy has the attributions needed to respond to post-crisis challenges, especially since recent research, such as that made by Gaspar et al. (2016), shows that inflation expectations are better anchored in the medium-term, in countries with an inflation-forecast targeting strategy, providing a stable basis for meeting the monetary policy objective.

Besides the option of the inflation-forecast targeting strategy, which is in fact a reinterpretation of the nominal anchor flexibility and involves the development of the technical forecasting and communication apparatus, there is also the option of integrated inflation targeting framework by including the financial stability policy in the monetary policy strategy. (Criste & Lupu, 2014) This option derives from the need to take into account the objective of financial stability as a result of the link between the dynamics of real interest rates and the global financial cycle, a relationship highlighted by Borio and Zabai (2016) and by Juselius et al. (2016). Starting from the presumption that the financial developments are at the core of the economic fluctuations, whether they lead to a crisis or not, a monetary policy oriented towards financial stability would be the one that permanently takes into account, i.e. throughout the entire financial cycle, this objective. Based on the integrated inflation targeting, a solution proposed by Agénor and Pereira da Silva (2013), and Pereira da Silva (2016), the central bank responsibility is explicitly extended in order to include the objective of financial stability, the interest rate is

set as to directly and clearly respond to an excessive credit growth, and also the macroprudential measures are directed as to meet both, the price stability and the financial stability. However, the problem consists of combining and measuring the three types of policy instruments: the conventional and unconventional measures of monetary policy, and the macroprudential ones, specific to the financial stability policy.

3. Monetary Policy Tools

In order to adjust the monetary policy strategy in the post-crisis period, most changes were made at the level of monetary policy instruments, both in terms of widening the range (diversification by applying non-conventional instruments) and increasing the intensity of their use. The literature analysing the set of instruments used in the post-crisis time is abundant. Some studies focus on the definition and classification of unconventional monetary policy measures (Borio & Disyatat, 2009; Cecioni et al., 2011), other studies either describe the impact of these unconventional measures at the macroeconomic level (Lenza et al, 2010; IMF, 2013), or investigate the challenges emerging from the unconventional measures implementation (Shirai, 2014), and also the limits of their application. (Peersman, 2013) Borio and Zabai (2016) update the information on the application of unconventional monetary policy and consider that these measures should be regarded as exceptional ones, used in special situations, given not only the unclear results of their effectiveness in influencing the financial market variables (bond yields, asset prices, exchange rates), but also the difficulties of assessing their impact on production and inflation, and the uncertainty of their long-term effects considering the central bank's objectives and independence.

The narrowing room for manoeuvre of the policy interest rate, and also the need to support the quantitative and qualitative easing measures applied by central banks of the advanced economies have entailed to a stronger communication between the central bank and the market by the forward guidance policy in order to keep the interest rate expectations at a lower level for a certain period of time. Central banks applying the forward guidance since the early post-crisis stage (Fed, Bank of Sweden) were joined by others: Bank of Japan, Bank of England, European Central Bank and Czech National Bank (see Table 2).

In addition to the traditional ways of communication and the new ones (forward guidance), with a growing frequency, the central banks communicate with the market through price and production forecasts, in order to reduce the uncertainty and any mistakes in predicting and interpreting future policies by the public. As we have already mentioned, some central banks apply an advanced monetary policy strategy by publishing the trajectory of the endogenous interest rate, along with the forecasts of several macroeconomic variables. Thereby, it provides more

information on how the financial assets returns are better aligned with the policy objectives, and also it clarifies the concrete implications of the data dependent policy. According to Alichi et al. (2015), the financial markets have a better adaptation to the post-crisis realities in countries where the central bank communicate the forecasted trajectory of the endogenous interest rate, based on a suitable forecasting model. Such a measure have been recently adopted by the Czech National Bank, namely, in 2008, it begun to publish the forecasted path of the endogenous interest rate, with confidence bands. This is a sophisticated form of the forward guidance policy, in line with the basic principles of the inflation targeting strategy, increasing the monetary policy transparency and providing a more concrete (numerical) version of the expected interest rate path. Such a decision came not only as a result of the post-crisis challenges, such as the achievement of the minimum interest rate threshold (zero lower bound level), but also of the fact that the Czech National Bank is well advanced in terms of macroeconomic forecasts.

Table 2. Central banks using unconventional instruments of monetary policy[*)]

Central Banks from	Types of unconventional tools of monetary policy				
	Quantitative easing	Qualitative easing	Exchange rate	Forward guidance	Negative interest rate
United States (Fed)					
Japan (BoJ)					
Czech Republic (CNB)					
United Kingdom (BoE)					
Switzerland (SNB)					
Sweden (SRB)					
Euro Area (ECB)					
Denmark (DNB)					

[*)] As we've mentioned, the period we refer to is after 2013. Before 2013, several central banks of the emerging economies (especially from Eastern Europe) used the so-called unconventional monetary policy (see Criste, 2015). Also, some central banks of the emerging economies are still using a kind of unconventional monetary instruments (e.g. reserve requirements), but they are different from those considered in this article.

Limiting the room for the interest rate manoeuvres in a recessionary environment could determine central banks to use the exchange rate as an unconventional monetary policy instrument, given that, when the classic nominal interest rate adjustment mechanism is no longer valid, the real interest rate and the real exchange rate channels could be activated on the expected inflation base. Using the exchange rate as an additional instrument for the monetary policy strategy implies an intense and credible communication of the central bank with the market. Such a measure has been also adopted by the Czech National Bank, since the end of 2013, in order to influence the medium-term expectations, considering the exchange rate

as a shock absorber for the recession. The intensive communication and the higher credibility of the Czech National Bank have been effective (Criste, 2015), because the participants in the financial market understood from the central bank's messages that the monetary policy does not seek to fix the exchange rate, but to stimulate the economic activity, to increase inflation and to reduce the risk of deflation.

An important role for using the exchange rate as an unconventional tool for influencing the market expectations has also the structure of the economy. For an economy with a higher degree of openness, the effects of the exchange rate depreciation on the demand, inflation, and expected inflation are much higher than those registered for a less open economy. The size of the economy is also important; the use of exchange rate instrument does not entail major effects in terms of the beggar-thy-neighbour policy on a smaller economy than on a larger one.

Some central banks (European Central Bank, National Bank of Sweden), concerned about the risks to economic growth and deflation, have adopted the negative interest rate policy, in order to discourage the banks and credit institutions from their proclivity towards holding their excess reserves at the central bank and also to stimulate the lending activity. Other central banks instead have begun to apply negative interest rates to counteract the pressures from both the national currency appreciation and the capital inflow (Denmark National Bank, National Bank of Switzerland). However, it is difficult to assess the effects of negative interest rates, at least because there are several factors which influence the external demand. Negative interest rates may cause national currency depreciations by providing incentives for capital transfers to higher yielding economies, but this tendency could be mitigated by a possible higher inflation or inflation expectations. On the other side, the incentive effect of the negative interest rates on the aggregate demand, and on the asset prices increasing increase in real terms could offset the national currency depreciation.

4. Conclusions

The nominal anchor and monetary policy objectives have not undergone major changes, but it is worth noting that unlike in the early stage of the post-crisis, the criticism of inflation targeting has gradually improved its reputation, not only because those central banks which had such a strategy did not abandon it, but because other central banks have also adopted recently such a strategy (Fed, Bank of Japan, Reserve Bank of India and Bank of Russia).

During post-crisis time, it is noticed an increasing relevance for the inflation-forecast targeting strategy, as it can more easily guide the market expectations in

the direction pursued by the central bank, but it implies a high level of credibility of the central bank's policy.

The adjustment of the monetary policy strategy during post-crisis time mainly meant changes at the level of monetary instruments. As a rule, the central banks, constrained by circumstances, have improved the communication tools and techniques, giving a greater importance to developing and publishing macroeconomic forecasts. In this post-crisis stage, characterized by a higher uncertainty for the future development of the economic activity, we believe that, among the instruments at the central banks' disposal, the communication policy becomes one of the most essential monetary policy tool, especially, because it can contribute to anticipate the public reactions. In addition to the classical communication methods, the forward guidance policy is increasingly important, as well as communicating the forecasts of various macroeconomic variables (inflation, the potential GDP, endogenous interest rate, etc.). For several central banks, the forward guidance policy tends to become a standard and permanent instrument of policy framework, in the post-crisis time, although the transmission mechanism of this decision and its effects are not yet sufficiently studied and known. The persistently low inflation in most economies, below the optimum level (i.e. the target), represents a further challenge for the monetary policy strategy, as this persistence is reflected on the inflationary expectations, which could lead further to a "de-anchoring" of them. Bringing the inflationary expectations to the sustainable path (followed by the central bank) represents a future challenge for monetary policy. It requires, among other things, an improvement in the communication policy, and also in the developing and public dissemination of the forecasts for the macroeconomic and financial variables, in order to achieve a better guiding of the public and to improve the anticipations regarding the economic developments.

Based on the literature proposals concerning the monetary policy strategy, and also on the experience of some central bank which have adapted their monetary policies to the crisis and post-crisis challenges, we believe that, although there is not a valid universal solution, the monetary policy strategies can be adjusted taking into account the features of both the forecast-inflation targeting strategy and the integrated inflation targeting strategy. The latter one implies to explicitly extend the central bank's responsibility by including the financial stability objective into the monetary policy strategy.

As regards the option for an integrated inflation targeting strategy, a further challenge for the monetary policy is to design a rule that takes into account both, the financial developments and the contribution to the mitigation of the financial cycle. Such a rule entails reorienting the monetary policy strategy towards the financial stability objective, but not in a narrow sense, namely adopting a proactive

conduct to counteract the accumulation of the financial imbalances only when they become obvious, but in a broader one, by taking into account the financial developments in a systematic manner, so as not to deviate too long and too far from what it is called "financial balance".

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