DOI:10.17951/h.2018.52.4.83-91

A N N A L E S
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA

VOL. LII, 4 SECTIO H 2018

Maria Curie-Skłodowska University in Lublin. Faculty of Economics

ILONA SKIBIŃSKA-FABROWSKA

ORCID ID: https://orcid.org/0000-0002-4464-0021
ilona.skibinska-fabrowska@poczta.umcs.lublin.pl

# *Unconventional Monetary Policy of the Czech National Bank*

Niestandardowa polityka pieniężna Narodowego Banku Czech

**Keywords:** central bank, monetary policy, unconventional monetary measures, exchange rate, Czech National Bank

**Słowa kluczowe:** bank centralny, polityka pieniężna, niestandardowe instrumenty polityki pieniężnej, kurs walutowy, Narodowy Bank Czech

**JEL code: E42; E52; E58**

## Introduction

In the light of the financial crisis that broke out in 2008,[1] many countries launched special economic measures, both fiscal and monetary. Because of the source of disorders, which can be found in the financial sector, and the first manifestations of instability (the bankruptcy of financial institutions, the infection effect and the crisis of trust in the interbank market), in the first phase, the burden of rescue actions was on the central banks. These institutions used the standard measures of monetary policy that were at their disposal by lowering interest rates and facilitating access to the fluency offered by the central bank for commercial banks. However, since interest rates reached the zero lower bond, it was necessary to employ measures that had not ever been tried before. The

[1] Assuming as its beginning the date of the collapse of Lehman Brothers on September 15, 2008.

biggest central banks (the Federal Reserve System, the Bank of England and the European Central Bank) launched programs of asset purchasing called *quantitative easing*. The effects of their launches for different economies have been discussed and analysed ever since. Other measures were chosen by the monetary authorities of the countries of Central Europe that were not part of the Eurozone. The National Bank of Poland introduced the "Trust Package" [Skibińska-Fabrowska, 2017, pp. 160–62], while the National Bank of Hungary started the "Self Financing Programme" and the "Funding for Growth Scheme". Discrepancies among those measures resulted from different problems than those encountered in the United States and the Eurozone. Also, the Czech National Bank (CNB) decided to launch an unconventional monetary instrument – the exchange rate control. The purpose of this paper is to analyse the macroeconomic conditions for the exchange rate control as a tool of monetary policy and to evaluate the effects of employing this tool with a view to discovering whether this solution could be adapted by other countries.

This paper consists of four parts. In the first one, the economic situation of the Czech Republic will be presented along with the conditions that prompted the CNB to implement an unconventional monetary policy. The second part will include a survey of the theoretical achievements concerning the possibility of using the exchange rate as an instrument of monetary policy and the role of interventions in the exchange rate activated by a central bank to stabilize the economic situation in a given country. The third part will assess the effects of using the non-standard instrument of monetary policy by the CNB and will analyse the effects of abandoning the non-standard monetary policy (exit strategy). The fourth part will draw conclusions about the possibility of other central banks using the Czech experiences.

## 1. The economic situation of the Czech Republic at the beginning of the 21st century

The contemporary economy and financial system of the Czech Republic started to take shape in the 1980s and 1990s [Przybylska-Kapuścińska, 2007, pp. 18–19]. High inflation, which was a result of liberalization, was one of the problems dealt with at that time. Since foreign investment was limited, the CNB assumed a fixed rate of the crown in relationship to the US dollar as a nominal anchor for monetary policy. In the late 1990s, however, due to the opening of the Czech economy, the inflow of foreign capital and a currency crisis in Asia in 1997, keeping a fixed exchange rate became impossible [Alichi et al., 2015, p. 6]. As a result, in December 1997, the CNB (after six months of preparations) decided to launch a strategy of immediate inflation target (since January 1998), establishing the target primarily at 5.5%–6.5% of net inflation [*Inflation targeting*..., 2018]. Since 2010, the inflation target has been established at 2%, with a fluctuation of 1%.

After the transformative period of the 1980s and 1990s, at the turn of the century, the Czech economy reached stabilization. That was possible to a great extent thanks to strong economic growth in the countries of the Economic and Monetary

Union (EMU), which were the main trade partners of the Czech Republic. That was accompanied by the process of privatization, also in the banking sector, and growth in salaries. Accessing the EMU in 2004 gave the economy another boost that was accompanied by a pro-cyclical fiscal policy [Hledik et al., 2016, p. 65]. As a result, the economy was overheated, and the CNB introduced measures regarding monetary policy. Since 2004, the exchange rate had appreciated, reaching the level of 23 crowns per 1 euro in the summer of 2008 and helping to cool down the economy.

On the eve of the global financial crisis, the Czech banking sector belonged to private foreign investors. Banks acted in a traditional, conservative and safe way. They were characterized by high liquidity (which was, among other things, a result of exchange rate interventions by the central bank, privatization incomes and transfers from the EMU), a high level of capital adequacy and high quality credit portfolios [Brüna, Durčáková, 2012, p. 264]. Relatively low interest rates did not encourage foreign currency credits (which was common in the other countries of the region). What was a characteristic trait of the banking sector is excessive liquidity.

Despite the stable departure point in the middle of 2009, the Czech economy fell into a deep recession, mainly due to a rapid decrease in foreign demand for exported household goods. The drop in GDP reached 4.8%, while in export 17% [Ignasiak-Szulc, Kosiedowski, 2016, pp. 26–27]. That was accompanied by the deflation of the crown, which reached 25% from the middle of 2008 to the middle of 2009. Supported by the active fiscal policy, this brought the dynamics of GDP and the whole economy back into balance [Hledik et al., 2016, p. 67].

At the beginning of 2013, the Czech economy was affected by the second wave of the crisis. That was caused by the European debt deficit and the effects of internal fiscal consolidation. These effects appeared mainly on the consumption side – the


| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP | 4,3 | 2,9 | 1,7 | 3,6 | 4,9 | 6,5 | 6,9 | 5,6 | 2,7 | -4,8 | 2,3 | 1,8 | -0,8 | -0,5 | 2,7 | 5,3 | 2,6 |

Figure 1. Dynamics of GDP in the Czech Republic (2000─2016)

Source: Author's own assessment based on: https://countryeconomy.com/gdp [access: 10.02.2018].

rise of unemployment and the drop in the disposable income of private households brought the decrease of GDP. The output gap and the decrease in foreign demand resulted in deflation pressure. Figure 1 presents the relevant data concerning the dynamics of GDP in the Czech Republic in 2000–2016.

These data point to two periods of a deep drop in the dynamics of GDP, in both phase one and phase two of the crisis, divided by a two-year period of a relatively low/minor growth.

Since the CNB had lowered the basic interest rate (discount rate) to the zero lower bond as a result of primary reactions to phase one and phase two of the crisis, the possibilities to implement standard monetary measures were exhausted.

## 2. Exchange rate as an instrument of monetary policy

In the face of disorders caused by the financial crisis and the economic crisis, the exchange rate can be used by a central bank in a twofold way. The first option is maintaining the regime of a floating exchange rate and treating changes in this rate as a tool to absorb exogenous asymmetrical shocks. Czech experiences from the first wave of the crisis and the devaluation of the crown's exchange rate by 25% in relationship to the euro confirm the view that in unstable conditions, a floating exchange rate plays a positive role [Audzei, Brázdik, 2015, pp. 405–406]. Studies concerning the reactions of central banks in the developing countries to asymmetric shocks lead to similar conclusions [Benlialper et al., 2017, pp. 3–7; Hammermann, 2005, pp. 115–148]. They also point to an active use of the exchange rate as a stabilizer in conditions of realizing the strategy of immediate inflation targets.

The second option is actively using the exchange rate as an instrument (not a goal) of monetary policy. It assumes operations performed by a central bank within the strategy of inflation target that allow the regime of a floating exchange rate. Usually, monetary authorities extremely rarely decide to make currency interventions under such conditions, being aware that in this way, they may primarily influence expectations concerning future appreciation or depreciation of a local currency [Lízal, Schwarz, 2018]. The channels through which a change in exchange rates influence real economy are a change of prices of imported goods and, indirectly, a change in salaries and employment levels in companies producing both export goods and those for the local market. However, the impulse generated in this way ends relatively fast [Lízal, Schwarz, 2018]. Under specific conditions, using the exchange rate and the central bank's interventions on the exchange market gain importance. That happens when interest rates reach the level close to zero and the permeability of traditional channels of monetary impulse transmission is limited. Simultaneously, in the banking sector, excessive liquidity makes quantitative easing ineffective [Lízal, Schwarz, 2018]. Under such conditions, monetary authorities may trigger the depreciation of their own currency as a result of their intervention because

- the central bank may purchase an indefinite amount of foreign currencies, paying for them in their own currency, which is emitted limitlessly,
- depreciation positively affects the economy in times of crisis by boosting aggregate demand, inflation and expectations of inflation [Malovana, 2015, p. 5],
- the growth of inflation expectations reduces the real interest rate, which additionally boosts the economy, and
- the influence of depreciation is short-term and does not affect long-term inflation expectations.

The condition to reach the intended goal, which is inflation growth, is convincing the market participants that the basic goal of the central bank – the inflation target – has not changed and exchange interventions are only an instrument of monetary policy. What is also necessary is a high level of credibility of monetary authorities because it allows them to influence expectations in a short period of time but will not affect the long-term anchoring of inflation expectations. The key role in using the exchange rate as an instrument of monetary policy is communication with the market.

The costs of using the exchange rate as a non-standard instrument of monetary policy are connected to the growth of foreign-exchange reserves that may become a source of loss for the central bank if the local currency is appreciated. Since the depreciation of the currency is in agreement with the directions of monetary policy (easing), it does not necessitate the sterilization of the central bank's operations and does not generate costs. Also, in the light of available studies [Sarno, Taylor, 2001, pp. 24–25; Daude et al., 2016, pp. 239–261], the effectiveness of using the exchange rate as an instrument of monetary policy in specific conditions of disorders in financial markets is high.

## 3. The Czech National Bank's use of the exchange rate as a non-standard instrument of monetary policy

In reaction to the first wave of the crisis, the CNB used the traditional instrument of monetary policy by lowering interest rates. Figure 2 presents the line of changing the basic interest rate (discount) against the background of inflation change and the height of inflation target.

By the end of 2012, the interest rate reached the level close to zero in conditions of very low basic inflation and CPI inflation above 2% (which was caused by high prices of food worldwide and the growth of indirect taxes). Projections indicated the possibility of leaving inflation below the target for the following quarters [Skořepa et al., 2016, p. 154]. The economy was in recession, and further easing of monetary policy appeared to be necessary. Using a negative interest rate was impossible due to the current legal regulations [Brůha, Tonner, 2017, p. 3]. Under such circumstances, within the forward guidance policy, the CNB signalled that it was considering using the exchange rate as an additional instrument of monetary policy [Alichi et al., 2015,

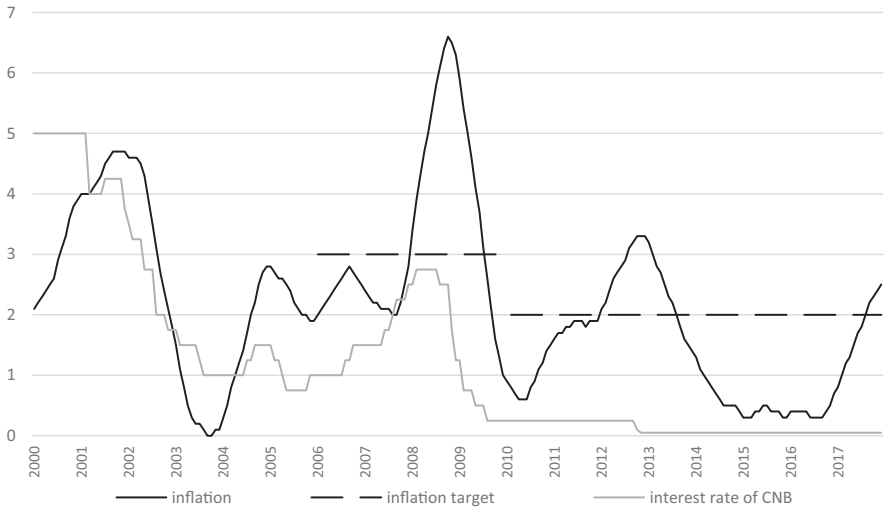


Figure 2. Changes of the level of the basic interest rate of the CNB, inflation and inflation target in the Czech Republic in 2000–2017

Source: Author's own assessment based on: http://www.cnb.cz/en/monetary_policy/instruments/#history [access: 10.02.2018].

pp. 15–16]. Finally, the new instrument was introduced in November 2013. The CNB intervened to keep the rate of the crown in relationship to the euro over 27 crowns per euro. That meant the depreciation of the local currency. In the first days after announcing this decision, the CNB purchased EUR 7.5 billion. The rate was stabilized at the expected level and remained unchanged until the middle of 2015. Between July 2015 and January 2016, the bank made further interventions amounting to EUR 11.2 billion [Hledik et al., 2016, p. 81]. Figure 3 presents fluctuations in the crown's exchange rate in relationship to the euro before, during and after the end of the CNB's intervention.

As a result of the CNB's interventions, the exchange rate of the crown remained above the fixed borderline. From that point of view, the effects desired were reached. However, the inflation level remained below the expectations of the CNB. It had been assumed that, as a result of the depreciation of the crown, inflation would grow by 1.6%, but its cumulated growth was 1.1% between November 2013 and the end of 2015. That was caused by endogenous factors (deflationary – lowering the rates of indirect taxes, lowering health insurance fees) and exogenous factors (pro-inflationary – increased energy prices in Germany, which influenced inflation growth). What should not be underestimated was also a small growth in salaries caused by the lack of adjustment on the part of entrepreneurs and low salary pressure [Skořepa et al., 2016, p. 164]. Simultaneously, studies point out to positive impulses – new job creation (estimated at 120,000 between November 2013 and December 2015) and growth in GDP [Opatrny, 2017, p. 561].


Figure 3. Fluctuations in the crown's rate in relationship to the euro, 2000–2017

Source: http://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofx-ref-graph-czk.en.html [access: 10.02.2018].

As a result of exchange interventions, the CNB reported growth in its balance sum of 40% to the level of over 60% GDP [*The CNB Balance Sheet*, 2018]. In the future, in light of the crown's appreciation, this may generate costs on the part of the central bank.

The CNB carefully prepared the market for the change of the monetary policy instrument, both for introducing the exchange rate as its policy and for withdrawing from this solution. Since the middle of 2014, it has implemented the policy of communicating the end point of the exchange intervention to the market. Finally, in April 2017, the defence against the excessive appreciation of the rate was abandoned. As a result, the rate appreciated slightly. Taking into consideration both the achieved macroeconomic effects and the way of implementing and abandoning the unconventional monetary policy, it seems proper to evaluate its application as a success of the Czech National Bank. Although the inflation level remained below the expectations, the Czech Republic avoided deflation, and the economy (also thanks to the fiscal policy and impulses from abroad) returned to the path of growth.

## Conclusions

The exchange rate as a non-standard instrument of monetary policy can be successfully used by a central bank only under specific conditions. That happens when interest rates cannot be further used as a way of easing the monetary policy because they have already been lowered to a level close to zero. Secondly, a central bank must enjoy great credibility, which manifests itself, among other things, in the

strong anchoring of long-term inflation expectations. Moreover, monetary authorities should clearly communicate with the market and enjoy its trust.

The banking sector should be characterized by excessive liquidity, which makes other unconventional instruments of monetary policy ineffective. If banks possess foreign currency credits in their portfolios, that makes applying an exchange rate policy difficult or practically impossible when that policy is treated as an instrument of monetary policy, since the depreciation of a local currency may significantly worsen the situation of borrowers, which may, in turn, weaken the condition of the whole sector.

The economy of the country in which the central bank decides to use exchange rate as an instrument of monetary policy should be characterized by a high level of openness, since only then are the channels through which depreciation influences the real zone effective.

A very difficult question is that of abandoning the non-standard monetary policy and stopping use of the exchange rate as a non-standard instrument. In the case of the Czech Republic, this decision was preceded by the monetary authorities preparing the market and announcing its goals [Pielach, 2018]. The communication concerned not only the expected date of unpegging the rate, but also the possible, periodical growth of rate fluctuation and the central bank's approach to it [Winfrey, Laca, 2018]. That caused a positive effect in the shape of a small appreciation of the crown (which was supported by the structure of the local exchange market) [Kowalewski, 2018].

## References

Alichi, A., Benes, J., Felman, J., Feng, I., Freedman, Ch., Laxton, D., Tanner, E., Vavra, D., Wang, H., *Frontiers of Monetary Policymaking: Adding the Exchange Rate as a Tool to Combat Deflationary Risk in the Czech Republic*, IMF Working Paper, 15(74), Washington 2015.

Audzei, V., Brázdik, F., *Monetary Policy and Exchange Rate Dynamics: The Exchange Rate as a Shock Absorber*, "Czech Journal of Economics and Finance" 2015, Vol. 65(5), pp. 391–410.

Benlialper, A., Cömert, H., Öcal, N., *Asymmetric exchange rate policy in inflation targeting developing countries*, Working Paper 86/2017, Institute for International Political Economy, Berlin 2017.

Brůha, J., Tonner, J., *An Exchange Rate Floor as an Instrument of Monetary Policy: An Ex-Post Assessment of the Czech Experience*, Working Paper Series 4, CNB, Prague 2017.

Brüna, K., Durčáková, J., *Banking System Liquidity Absorption and Monetary Base Backing in the Context of Exchange Rate Policy in the Czech Republic, Poland and Hungary*, "Post-Communist Economies" 2012, Vol. 2(24).

Daude, C., Yeyati, E.L., Nagengast, A.J., *On the effectiveness of exchange rate interventions in emerging markets*, "Journal of International Money and Finance" 2016, Vol. 64, pp. 239–261.

Hammermann, F., *Do Exchange Rates Matter in Inflation Targeting Regimes? Evidence from a VAR Analysis for Poland and Chile*, 2005, https://link.springer.com/chapter/10.1007/3-540-28201-7_7 [access: 30.08.2018].

Hledik, T., Holub, P., Král, P., *The Czech National Bank's Role Since the Global Crisis*, "Public Finance Quarterly" 2016, pp. 65–93.

Ignasiak-Szulc, A., Kosiedowski, W., *Gospodarka państw Europy Środkowo-Wschodniej w okresie kryzysowych turbulencji*, „Zeszyty Naukowe UEK" 2016, Vol. 12(960), pp. 21–39.

*Inflation targeting in the Czech Republic*, 2018, https://www.cnb.cz/en/monetary_policy/inflation_targeting.html [access: 02.02.2018].

Kowalewski, P., *Czeska korona odzyskuje skrzydła*, 2018, https://www.obserwatorfinansowy.pl/forma/rotator/czeska-korona-odzyskala-skrzydla/ [access: 02.01.2018].

Lízal, L., Schwarz, J., *Foreign Exchange Interventions as an (Un)Conventional Monetary Policy Tool*, 2018, https://www.bis.org/publ/bppdf/bispap73i.pdf [access: 02.01.2018].

Malovana, S., *Foreign Exchange Interventions as the Zero Lower Bound in the Czech Economy: A DSGE Approach*, Working Paper 13/2015, Institute of Economic Studies, Prague 2015.

Opatrny, M., *Quantifying the Effects of the CNB's Exchange Rate Commitment: A Synthetic Control Method Approach*, "Czech Journal of Economics and Finance" 2017, Vol. 6, pp. 539–561.

Pielach, M., *Mamy czas na normalizację polityki pieniężnej*, 2018, https://www.obserwatorfinansowy.pl/tematyka/makroekonomia/mamy-czas-na-normalizacje-polityki-pienieznej/ [access: 02.01.2018].

Przybylska-Kapuścińska, W., *Polityka pieniężna nowych państw członkowskich Unii Europejskiej. Od transformacji przez inflację do integracji*, Wolters Kluwer Polska, Warszawa 2007.

Sarno, L., Taylor, M.P., *Official Intervention in the Foreign Exchange Market: Is It Effective and, If So, How Does It Work?*, "Journal of Economic Literature" 2001, Vol. 39, https://pubs.aeaweb.org/doi/pdf/10.1257/jel.39.3.839 [access: 30.08.2018].

Skibińska-Fabrowska, I., *Banki centralne wobec kryzysu. Niestandardowe instrumenty polityki pieniężnej*, CeDeWu, Warszawa 2017.

Skořepa, M., Tomšik, V., Vlček, J., *Impact of the CNB's Exchange Rate Commitment: Pass-through to Inflation*, "BIS Paper" 2016, Vol. 89, pp. 153–167.

*The CNB Balance Sheet*, http://www.cnb.cz/en/about_cnb/performance/ten_day_balance_sheet/cnb_bilance_eng.html [access: 20.02.2018].

Winfrey, M., Laca, P., *Short-term fluctuations of koruna exchange rate after exit will not trouble us very much*, https://www.cnb.cz/en/public/media_service/interviews/media_2017/cl_17_170302_rusnok_bloomberg.html [access: 02.01.2018].

## Niestandardowa polityka pieniężna Narodowego Banku Czech

W obliczu globalnego kryzysu finansowego wiele banków centralnych zastosowało niestandardowe instrumenty polityki pieniężnej. Były one uruchamiane po obniżeniu krótkoterminowych stóp procentowych do poziomu bliskiego zera i po wyczerpaniu się możliwości stosowania klasycznych narzędzi. Narodowy Bank Czech w warunkach ujemnej dynamiki PKB, niskiej inflacji i zerowych stóp procentowych zdecydował o zastosowaniu kursu walutowego jako niestandardowego instrumentu polityki pieniężnej. Prowadzone działania przyniosły efekt w postaci pobudzenia wzrostu gospodarczego przy relatywnie niewielkim wpływie na poziom inflacji. Doświadczenia Czech pozwalają na określenie warunków, w jakich możliwe jest zastosowanie kursu walutowego jako instrumentu polityki pieniężnej oraz spodziewanych efektów jego wprowadzenia.

## Unconventional Monetary Policy of the Czech National Bank

In the face of the global financial crisis, many central banks applied non-standard monetary policy instruments. They were activated after lowering short-term interest rates to a level close to zero and after the use of classical tools was exhausted. In the conditions of negative GDP growth, low inflation and zero interest rates, the Czech National Bank decided to use the exchange rate as a non-standard instrument of monetary policy. The activities carried out stimulated economic growth and had a relatively small impact on the level of inflation. The Czech experience allows determining the conditions in which it is possible to apply the exchange rate as an instrument of monetary policy and the expected effects of its introduction.