From float to currency floor and back to float: the Czech National Bank's temporary exchange rate commitment

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Abstract

In this note, we discuss the Czech National Bank's experience with the one-sided exchange rate commitment it applied from November 2013 to April 2017 as an additional monetary policy instrument to ease monetary conditions. We describe the CNB's operations in the foreign exchange market and developments in the Czech government bond and money markets in relation to the commitment. The CNB's experience with its temporary exchange rate commitment and with the subsequent exit serves as a case study of a successful policy measure in a small open inflation targeting economy facing a severe risk of deflation and zero monetary policy interest rates.

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Keywords: Czech National Bank, monetary policy instruments, zero interest rates, government bond market, money market.

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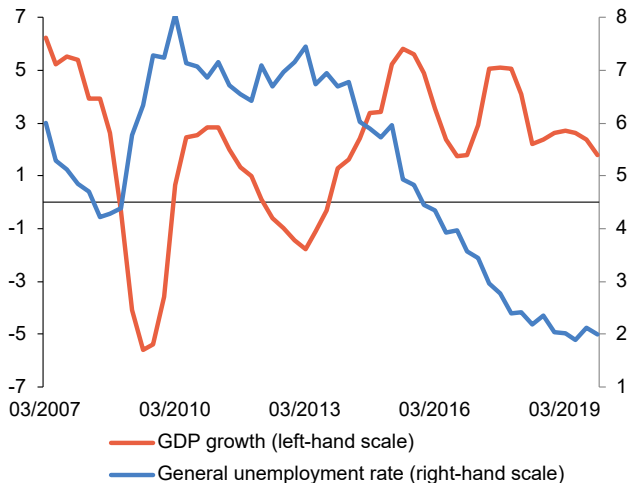
Following the Great Financial Crisis (GFC) and the subsequent European debt crisis, the Czech economy slipped into a protracted period of sluggish growth in 2012–13 (Graph 1). Facing strong disinflationary pressures (Graph 2), the Czech National Bank (CNB) gradually eased monetary conditions by lowering its policy rates. Between August 2008 and November 2012, it cut its policy rates by almost 4 percentage points. The key rate hit "technical zero" in autumn 2012 (Graph 2), and thereafter the CNB used forward guidance to further ease monetary conditions (Franta et al (2014)). This, however, was not sufficient, as the 2013 inflation forecasts predicted that inflation would turn negative in 2014. On 7 November 2013, therefore, the CNB introduced a floor for the Czech koruna exchange rate as its instrument: it committed to keeping the rate weaker than 27 koruna/euro (ie a one-sided commitment). The introduction of the currency floor and, later on, expectations of an exit resulted in increased capital flows, large-scale FX interventions and major shifts in the investor structure of Czech government bonds (CGBs) and their yields.

GDP growth and unemployment rate

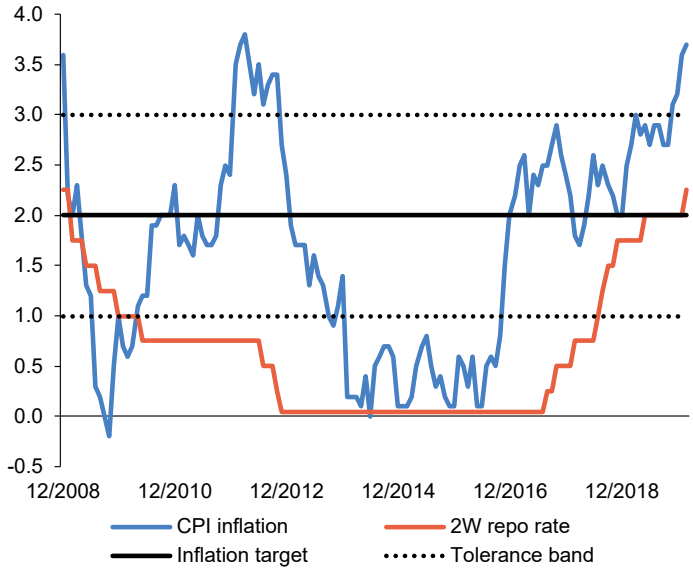
(in %) Graph 1



Sources: CNB; CZSO.

Inflation and key policy rate

(in %) Graph 2



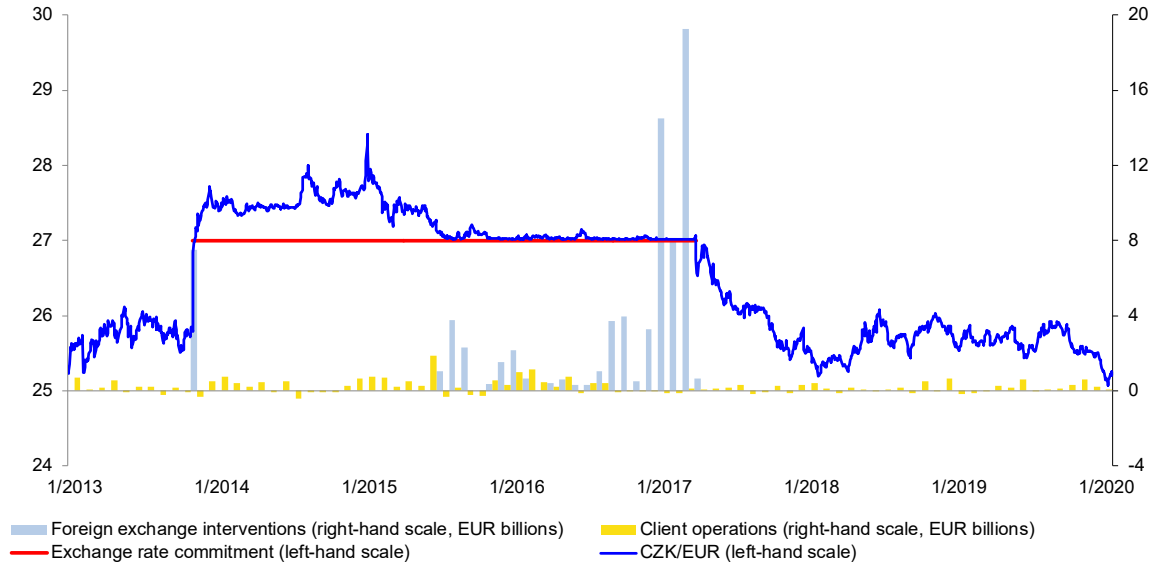
Source: CNB.

During 2014 and 2015, the Czech economy moved to positive growth. Besides the favourable effects of the weaker koruna, factors such as a recovery in growth in the euro area, domestic fiscal policy and a fall in oil prices contributed to stronger economic activity and a sharp decline in unemployment (Graph 1). Inflation returned to the 2% inflation target in late 2016 (Graph 2). Given the prospect of sustainable fulfilment of the target at the monetary policy horizon, the exchange rate commitment was discontinued on 6 April 2017. The exit from the commitment was the first step towards gradually returning overall monetary conditions to normal. Persistant domestic cost pressures coupled with fading foreign anti-inflationary effects increased the need to return the CNB's monetary policy to a neutral stance. Part of this shift was delivered by appreciation of the koruna, while the rest was a result of regular increases in the policy interest rate, which reached 2.25% in February 2020 (Graph 2).

Before the GFC, the CNB had not been active on the FX market and had conducted no interventions between 2002 and 2013. Nevertheless, to establish the exchange rate commitment and build its credibility, the CNB had to purchase foreign exchange reserves worth EUR 7.5 billion (Graph 3) during the first few days of the commitment. For the next 19 months, the CNB did not have to intervene in the foreign exchange market as the exchange rate was above the floor. In this period, its foreign exchange reserves were increasing solely due to the drawdown of EU funds (client operations). In mid-2015, however, the exchange rate moved close to the floor, influenced by the quantitative easing of the ECB and continued favourable developments in the domestic economy. The CNB thus had to start intervening whenever needed (Graph 3). The most pronounced wave of interventions took place in the first quarter of 2017. By then, it was apparent that the exchange rate commitment was coming to an end, and exporting companies were thus hedging against possible future exchange rate appreciation. At the same

time, financial investors were building massive long positions in koruna (Franta et al (2018)). Altogether, the FX interventions amounted to EUR 75.9 billion between November 2013 and April 2017 (another EUR 11 billion was purchased as part of client operations in the same period).

CZK/EUR exchange rate and CNB operations in FX market — Graph 3



Source: CNB.

Since the exit, there have been no foreign exchange interventions, as the exchange rate developments have been very smooth. By January 2020[2] the koruna had appreciated by approximately 5%, which was less than the markets had generally expected (Graph 3). Several factors might explain this. First, the exchange rate was slightly overvalued before the CNB intervention. As a result, the initial weakening of the currency by around 5–6% did not lead to any dramatic undervaluation of the koruna vis-à-vis its equilibrium level. Second, the depreciated exchange rate meanwhile passed through to all other domestic nominal variables, including wages and inflation. Therefore, the real equilibrium appreciation materialised through an inflation differential vis-à-vis the country's major trading partners, most notably the euro area. Third, the pace of the koruna's real equilibrium appreciation is now much slower compared with the pre-crisis trend. Fourth, exporters pre-hedged their future euro-denominated revenues while the exchange rate commitment was in place.

Lastly, foreign financial speculators who opt to close their long koruna positions might therefore face difficulties in finding a counterparty (due to the koruna's "overboughtness"). If they tried to close their large positions, the koruna would depreciate, thus reducing the yield on those positions. Some of the original speculators have thus probably become long-term investors in koruna assets, hoping for a reasonable yield compared with similar assets from other advanced

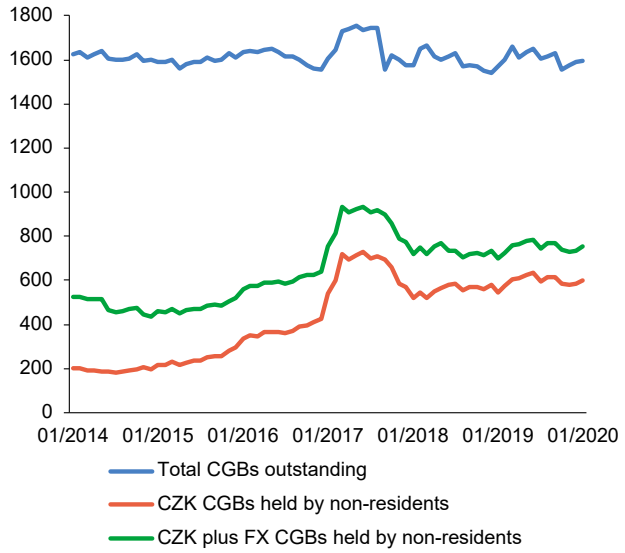
[2] We use data up to the end of January 2020, before the markets started being affected by the coronavirus.

economies. The overboughtness thus to a large extent automatically prevents the CNB's monetary policy rate hikes and the widening of the interest rate differential relative to the euro from giving rise to appreciation pressures. This has significantly enhanced the autonomy of the CNB's interest rate policy compared with the pre-2008 times.

The expectation that the koruna would appreciate after the exit from the currency floor, combined with search for yield associated with the quantitative easing of the ECB, has boosted the attractiveness of koruna-denominated assets. There are two major channels through which foreign investors try to achieve higher yields here. First, non-residents have invested massively in koruna-denominated CGBs (Graph 4). At the peak, in summer 2017, they held more than 50% of all CZK CGBs (Graph 5). The share has since gone down, but it still exceeds 40%. Including CGBs denominated in foreign currency (FX CGBs) the share of non-residents peaked at 58% and has fallen to a current 47%. Second, non-resident banks – primarily the parent institutions of local subsidiaries – were depositing more money at local banks after the introduction of the currency floor. These institutions collectively moved soon from being a modest net lender – their usual position for most of history – to being a significant net borrower (Graph 6).

Size and structure of CGB market

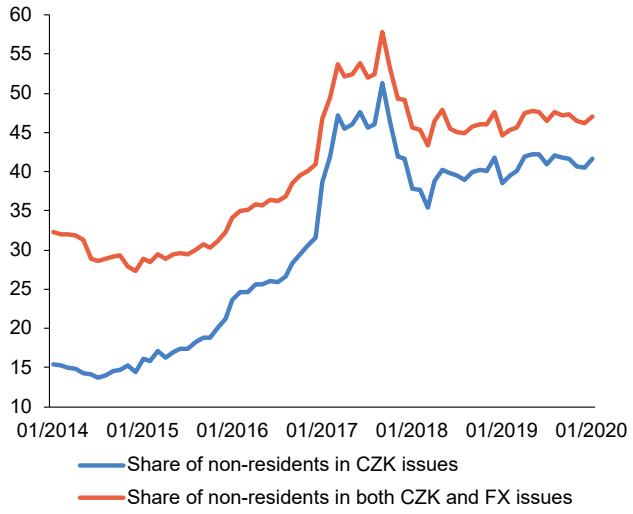
(in CZK billions) Graph 4



Sources: CNB; MoF of the Czech Republic.

Size and structure of CGB market

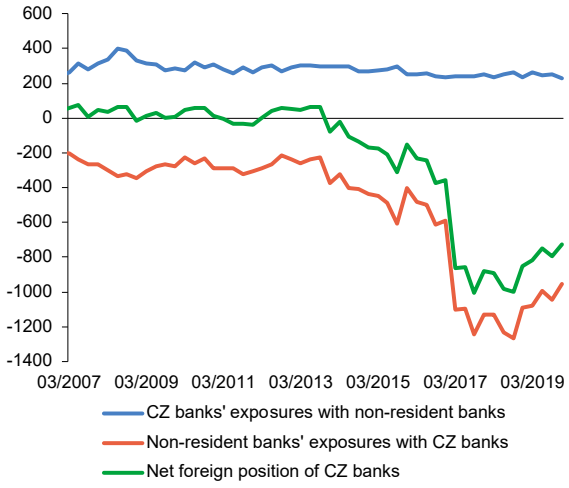
(in %) Graph 5



Sources: CNB; MoF of the Czech Republic.

Foreign position of banks in CZ

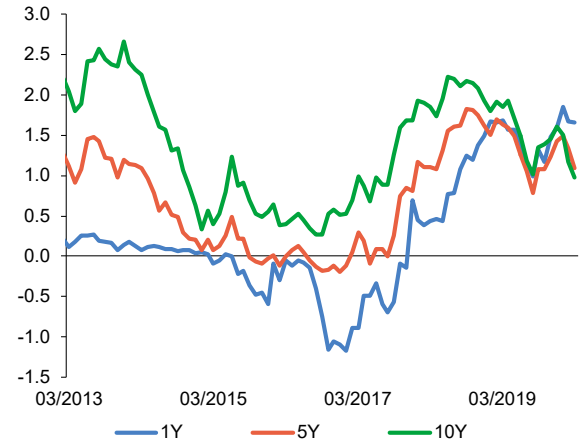
(in CZK billions)) Graph 6



Source: CNB.

CZK GGB yields

(in %) Graph 7

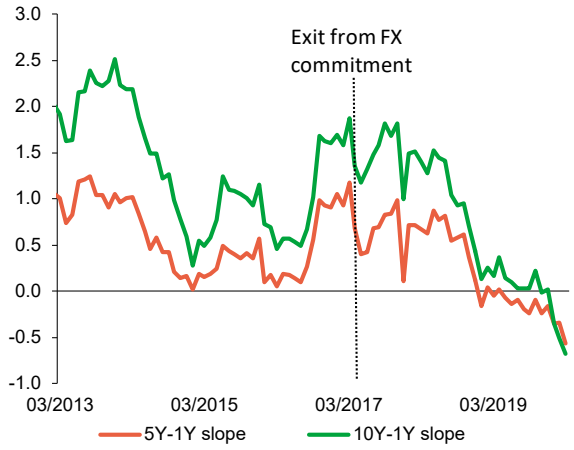


Source: CNB.

Sizeable investments in the CZK CGB market from non-residents are having a major impact on yields. There was a sharp decline in yields after the currency floor was introduced (Graph 7). Once expectations of an exit and of subsequent koruna appreciation emerged, both the one-year and the five-year yields turned negative. The gradual normalisation of monetary policy after the exit produced higher yields and restored the normal yield curve slope (Graph 8). However, the steps taken by key central banks, in particular the ECB's announcement of a new wave of quantitative easing, contributed to a significant decline in yields. The yield curve became negative up to five years (Graph 7), while the five-year and 10-year IRS rates, which are important for mortgage pricing, both dropped temporarily below 1% (Graph 9). Interest rates on new mortgages thus started to decline again – from close to 3% at the beginning of 2019 to 2.4% at the end of the year (Graph 9). This indicates that the loose monetary policy of the ECB and other central banks in advanced economies is – through the resultant search for yield – constraining the CNB's monetary policy autonomy as regards long-term lending rates.

CZK GGB yield curve slope

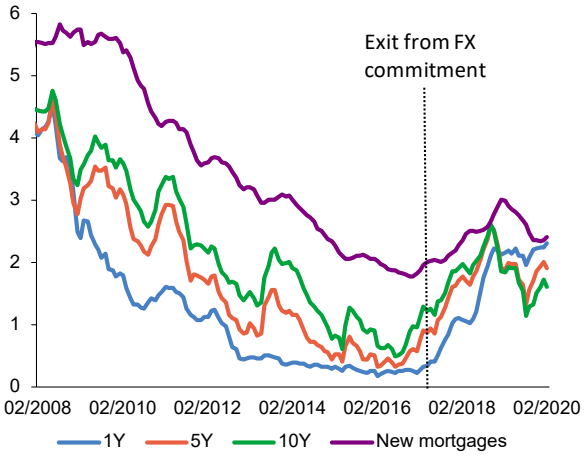
(in percentage points) Graph 8



Source: CNB.

CZK IRS rates and average new mortgage rate

(in percent) Graph 9



Sources: CNB; Fincentrum Hypoindex.

Analysts from financial firms, international institutions and rating agencies tend to raise two questions related to the developments described above when talking to CNB representatives. The first concerns the potential side effects of the large excess of structural liquidity in the local banking sector. Banks' koruna-denominated exposures held with the CNB reached the equivalent of USD 150 billion at the end of 2019 and represented roughly one third of banks' assets. Some argue that banks searching for yield could try to utilise this pool of liquidity to extend client loans with higher interest rates relative to the CNB's policy rates. The outcome could be a major credit boom financed de facto from sources drawn from abroad. For the CNB, this kind of situation is not new. A considerable liquidity excess has prevailed in the Czech banking sector for more than two decades without ever having become an extra impetus for credit expansion. Graph 10 reveals that the liquidity excess was

relatively large at the beginning of the century and expanded further following the introduction of the exchange rate commitment. The reason for this is that local banks generally have generous funding from client deposits. In such a situation, the excess liquidity, no matter how large, has practically no role in generating extra credit. As an integrated monetary, supervisory and macroprudential authority, the CNB can closely and comprehensively monitor developments in the whole financial system.

The second question is whether non-residents' large holdings of CZK-denominated CGBs could become the source of a strong shock if investors were to start collectively selling. Should this happen, there would be simultaneous upward pressure on CGB yields and downward pressure on the koruna. It is likely that domestic financial institutions would be able and willing to buy CGBs from non-residents if the yields were sufficiently attractive. Their CGB holdings were much higher before yields dropped while the exchange rate commitment was in place (Graph 11). In addition, should the sell-off by non-residents exert significant depreciation pressure on the koruna, with this pressure potentially endangering the fulfilment of the central bank's inflation target, the CNB could react by using its major monetary policy instruments, ie by hiking nominal interest rates and – in the extreme case – possibly also by reducing its large foreign exchange holdings via forex interventions. Overall, even in the event of relatively large sales of CGBs by non-residents, the CNB has sufficient instruments on hand to avoid a significant impact on domestic price and financial stability.

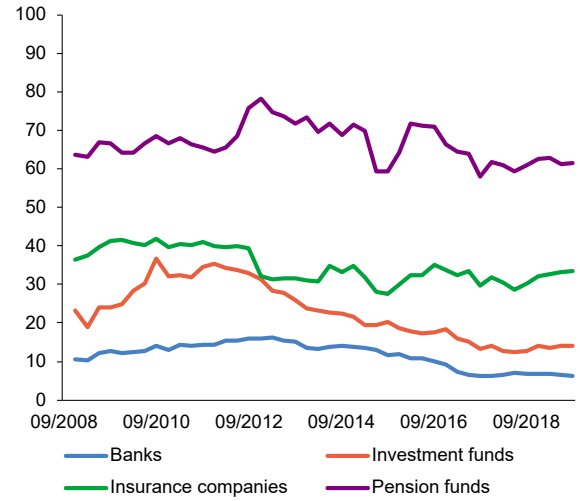
Share of banks' exposures held at CNB

(in per cent of banks' assets) Graph 10

Source: CNB.

Share of CGBs in assets of domestic sectors

(in %) Graph 11



Source: CNB.

To sum up, the CNB's experience with its temporary exchange rate commitment and with the subsequent exit serves as a case study of a small open economy facing a severe risk of deflation. The use of the exchange rate floor as an additional tool for monetary policy easing proved effective in averting the risk of deflation and returning inflation to the 2% target. Subsequent research (Brůha and Tonner (2017)) shows that the exchange rate floor had significantly positive effects on core inflation and prevented inflation from turning negative. It can therefore be retrospectively assessed as a successful policy measure for the Czech economy. Active communication about the duration of the exchange rate floor was a key element of the policy. The CNB notified the public and markets of the minimum duration of the floor (a "hard commitment") and the expected timing of the exit (a "soft commitment"). Although the hard commitment was postponed several times due to persistent deflationary shocks from abroad, it was ultimately fully met. The soft commitment provided information on the exit date expected or considered likely by the Bank Board and on the timing of the exit assumed in the forecast. The CNB's transparent communication on the duration of the exchange rate commitment and the likely timing of the exit had some effects on capital flows and financial markets. These nevertheless did not adversely affect the autonomy and effectiveness of the CNB's monetary policy.

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