Defending the strong side of the band - the Hungarian experience

Zsolt Érsek

1. The Hungarian foreign exchange regime

According to the Central Bank Act of 2001, the government and the central bank (MNB) mutually decide on the parameters of the exchange rate regime. The current Hungarian exchange rate regime, considering its main characteristics, is compatible with the ERM-II regime, in which every country aiming to join the EMU has to participate for at least two years before introducing the euro. The central parity, which is pegged to the euro, is 282.36 forint/euro. The market exchange rate may deviate from the parity within the +/-15% fluctuation band. The edges of the band are defined by the 324.71 forint/euro and 240.01 forint/euro exchange rate levels.

The present foreign exchange regime was introduced in three steps in 2001. On 4 May the fluctuation band was widened to +/- 15% from the earlier +/- 2.25%. On 15 June full foreign exchange liberalisation was announced. The crawling devaluation of the forint fluctuation band was lifted on 1 October and the central parity was set at 276.1 forint/euro. Since then there has only been one change: on 4 June 2003 the central parity (together with the whole band) was moved by 2.26%.

The bank distinguishes between passive and active intervention. Passive intervention means that at the edges of the band the MNB buys or sells foreign exchange to prevent the further appreciation or depreciation of the forint. This operation is implemented as standing facility, meaning that at the edges of the band the eligible banks call the MNB and ask for a price. The central bank's policy is to refrain from active intervention and use it only under extreme circumstances to decrease excessive volatility arising from insufficient liquidity. The main tool to influence the exchange rate is adjusting interest rates.

Until now, the market has reached the edge of the band only once, in January 2003 – but it resulted immediately in heavy speculation and attack against the strong edge of the band. At that time over five billion euros were bought by the Bank in passive intervention at the strong edge of the band. The speculation collapsed in two days, but the normalising the situation took longer and needed prolonged central bank intervention activity inside the band.

This paper will describe in detail the events from January until May 2003 (the speculative attack and the eventual outflow of hot money), concentrating on the several forms of central bank market presence at the time.[1]

2. Economic background of the January 2003 attack

In 2002, two of the major factors affecting inflation, fiscal policy and wage policy, departed considerably from the path anticipated earlier that year. The demand generated by general government increased by more than 4% of GDP, which was significantly higher not only than the figures forecast in early 2002, but also the projection in the government's mid-term economic programme in August 2002.

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[1] The MNB published detailed analyses of the events in its 2003/3 MNB Background Studies "Coping with the speculative attack against the forint's band" (see: www.mnb.hu/publications). This paper is partly based on this study.

During the autumn of 2002 it became obvious that fiscal expansion and the rate of wage growth would be significantly higher than what was forecast in August. Thus, the exchange rate comfort zone earlier announced of 240-245 forint/euro seemed to be inadequate to meet the inflation target. Given the situation, the MNB did not intend to prevent forint appreciation by interest rate policy, as both the modified 2003 inflation target and the one set for 2004 required an exchange rate very close to the edge of the forint's intervention band. That is why the MNB cut the base rate only twice by 50 basis points (19 November and 17 December) each time.

The appreciation of the forint's exchange rate after 19 October (the Irish referendum on EU enlargement) was caused by foreign investors' increased demand for long-term government securities (convergence trades).[2]

Simultaneously with the appreciation of the exchange rate, pressure was building up on the bank to considerably reduce its key policy rate. Many called for the abandoning of the inflation targets or at least their repeated modification. Under the circumstances, a massive interest rate cut would have undermined the credibility of the inflation targets and jeopardised the process of disinflation through generating higher inflationary expectations. In stark contrast, the MNB's interest rate policy unequivocally evidenced the central bank's commitment to the process of disinflation, which was especially crucial in December 2002 and January 2003, a period of utmost importance in terms of price and wage processes.

Nevertheless, no amount of speculative capital flowed in until 15 January. After the MNB's interest rate cut on 17 December, the amount of government securities held by foreign investors had stopped increasing, with the forint's exchange rate stabilising near the strong edge of the band. Due to Hungary's approaching entry into ERM-II, certain market participants forecast that the exchange rate would already be stronger than the edge of the band for the final months of 2003; however market developments did not suggest any short-term speculation on the appreciation of the forint.

On 15 and 16 January, however, the central bank had to face the challenge of extremely heavy speculation on the appreciation of the forint. Within the span of two days the MNB had to purchase a considerable amount of euros, totalling 5.3 billion, owing to massive forint purchases by foreign speculators.

3. Intervention techniques used

During the attack and its aftermath the MNB used several different intervention techniques (and other policy measures) to fend off the attack and reinstate normal market conditions.

3.1. Intervention at the edge of the band (passive intervention)

On 15 January 2003 the exchange rate of the forint reached the edge of its trading band (see Chart 1). The MNB had to buy a total of euro 908 million at 234.69 forint/euro. The foreign exchange transactions statistics submitted regularly by resident commercial banks to the MNB revealed that large forint buying orders had been placed by eight major foreign banks, many of which have subsidiaries in Hungary. The speculative attack was mounted by these foreign banks, or rather the clients they represented. On the same day, an extraordinary meeting of the monetary council cut the base rate by 100 basis points effective from the following day.

Market participants are likely to have interpreted the MNB's move as the sign of an imminent shift in the band. Some even voiced their opinion that a shift in the band was imminent as early as the following morning, which is evidenced by the fact that after the MNB's trading hours (15.00 GMT), with a completely unusual turnover for this time of the day, the market rate of the forint abandoned the band, and in the evening transactions were concluded at a rate below 233 forint/euro. The attack proved that important information – broadly available to the market – escaped the speculators'

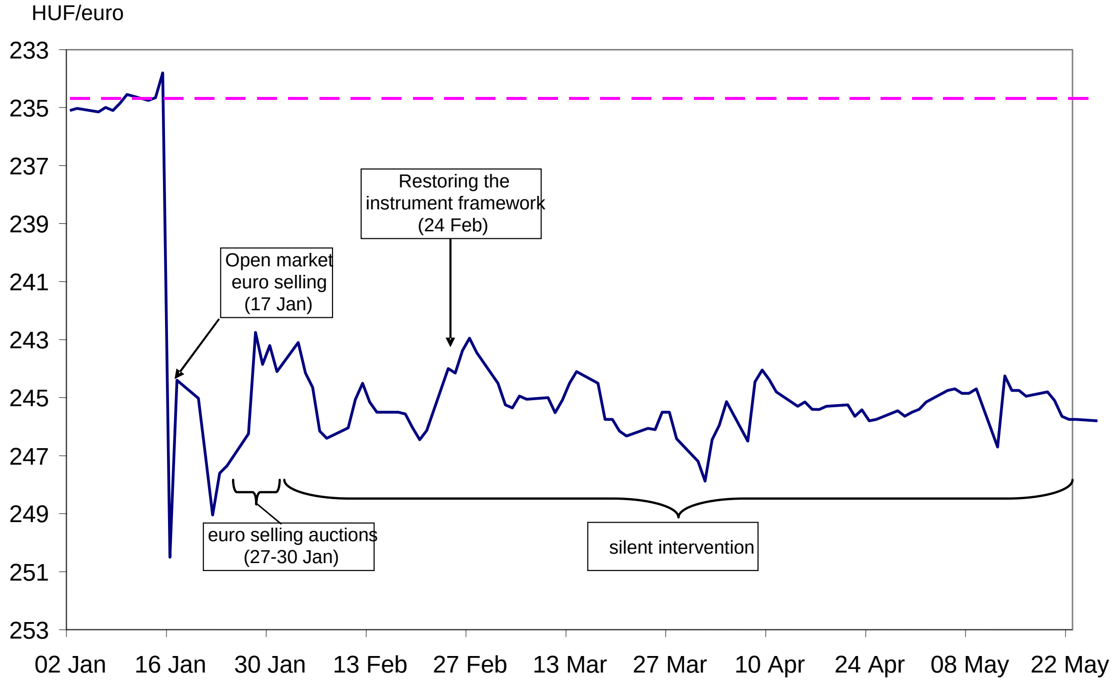
[2] These convergence trades exploit the fact that, by countries entering the eurozone, the differences among the yield curves of the countries should be much smaller due to the disappearance of currency risk.

attention. According to the Central Bank Act, "the Government, in agreement with the MNB shall determine the exchange rate regime, and all parameters thereof, in particular the width of the fluctuation band, the central parity and the composition of the currency basket". Moreover, the government voiced its opinion on several occasions that it deemed the appreciation of the forint excessive. Being aware of all the above facts, one could hardly have thought realistically that a shift in the band, resulting in the possible further appreciation of the forint, would occur.

Chart 1

Florint/euro exchange rate and euro sales by the MNB

January - May 2003



On the second day (16 January), the MNB had to intervene in an amount of euros 4.371 billion. At a press conference, the governor denied news reports on both a shift in and abandonment of the band and said that in order to defend the exchange rate regime the Bank was willing to further slash interest rates. This somewhat eased pressure on intervention, but it was unable to put an end to it. Major forint buyers were the ones who had already been active the day before, mostly the London subsidiaries of large international investment banks. Intervention at the strong edge of the band during the two days totalled euro 5.3 billion, equal to 7% of GDP in 2003.

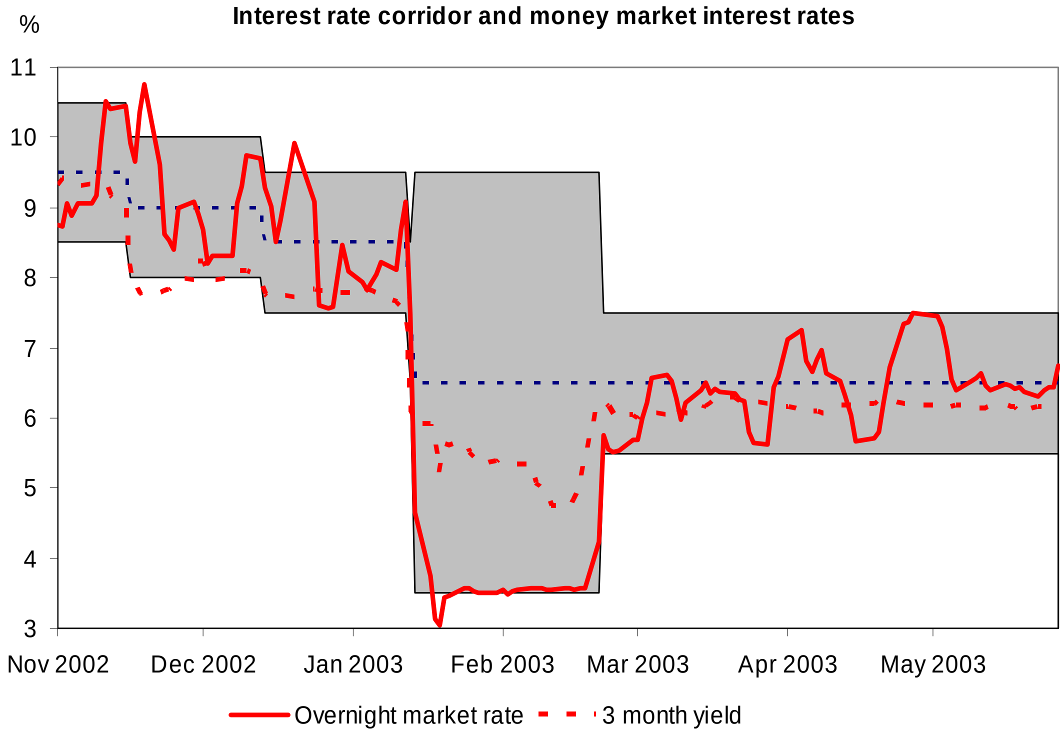
On 16 January, the monetary council took several steps to defend the exchange rate band. It lowered the key interest rate by another 100 basis points, put restrictions on the quantity of two-week deposits (forints 100 billion) and widened the overnight (O/N) interest rate corridor from +/-1% to +/-3% (see Chart 2).

Cutting the key interest rate on its own would not have resulted in the numerous advantages of the measures taken. As the engine of speculation had been expectations of the abandonment of the exchange rate regime, it was impossible to calculate the extent of necessary interest rate cuts. It was obvious that for a transitory period, deep interest rate cuts would be necessary to put an end to speculation and force the bulk of the hot capital to exit the market. Therefore the MNB decided to separate the permanent part of the interest rate cuts from the temporary: it would lower its key interest rate by 1%. However, the yield that the speculative capital would be able to post would decline by over 3% relative to the key rate. The 6.5% key interest rate continued to reflect the central bank's preferred interest rate level after the speculative attack, and was clearly different from the one on the O/N deposit facility. As a result, no extreme fluctuation of longer maturity yields or interest on deposits and loans materialised.

The MNB was able to absorb via domestic banks all excess liquidity in the banking system in O/N and two-week deposits. This resulted in a 5-percentage point decrease in actual yield at the short end (the most sensitive end in terms of speculation money) of the yield curve in two days. These measures, combined with the central bank's communication strategy committed to maintaining the exchange regime, reached their goals. Some speculators started to sell forint (ie close their positions), and further depreciation of the forint urged others to follow suit. By the end of the day, speculation had come to a halt, with the forint's exchange rate 5% weaker.

It is worth mentioning that these temporary changes in the monetary policy framework cannot be interpreted as use of capital controls, because neither were outright prohibition on capital flows implemented, nor were indirect controls introduced. The message sent to the speculators was that gains on forint purchases were far from being guaranteed, as they would only be able to place the purchased forint liquidity in deposits at an interest rate lower than the 3.5% rate on O/N deposit facility.[3]

Chart 2



3.2 Open market interventions

Intra-band euro sales had similar importance to previous changes to the central bank's policy instruments. The MNB recognised right from the beginning that the euro 5.3 billion was enormous compared with the size of the Hungarian foreign exchange market. In the absence of central bank intervention, the outflow of speculative capital would have caused the exchange rate to weaken to an extent, which could have led to the outflow of non-speculative capital as well.

Interventions in the foreign exchange market conducted after the speculative attack were fundamentally different from usual central bank interventions. Basically, the MNB sold euros for the purpose of handling a quantity problem – enormous amounts of speculative short-term forint assets were in the market relative to its size, which posed a substantial downward risk on the exchange rate. Due to the above considerations, the MNB attempted during the entire management of appreciation speculation not to give concrete price signals with the interventions to market participants.

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[3] Since only domestic banks have access to the MNB's standing facilities.

3.2.1 *Classical open market intervention*

The first intervention took place on Friday 17 January. On this occasion, the central bank conducted open market intervention through local brokers at the market rate in order to stabilise the market. Unfortunately the direct presence of the MNB reinforced market participants' beliefs that the exchange rate would appreciate considerably in a short time. In this operation the central bank was not able to sell big amounts without strengthening the exchange rate undesirably, but at least the market stabilised.

Therefore, so as to increase speculative uncertainty, the MNB decided to withdraw temporarily from the open foreign exchange market and switch to silent intervention. In line with the central bank's expectations, this resulted in slow exchange rate depreciation: once again the forint's exchange rate had depreciated to nearly forint/euro 250 by 22 January and, at the same time, the central bank could sell bigger amounts.

3.2.2 *Non-conventional open market intervention*

Nevertheless, the outflow of speculative capital took longer than expected, so the MNB decided to adopt an intervention technique never used before. From 27 January, the MNB called for euro bids for four consecutive days. Each time market participants could submit five different bids until 12 noon. The MNB notified each bidder about the result at 2pm. No maximum acceptable amount was stipulated, or any exchange rate level pre-announced (free auction).

On all auction days the trading pattern on the forint/euro market was the following: the market opened at a higher rate (246-247 forint/euro) but right after the announcement of the auction the forint started to strengthen and bids were submitted at rates at least 1-2 forint lower than the opening market rate, only to return to weaker levels by next day. So every time the central bank appeared, the market "ran away".

This sort of auction was an attempt by the central bank to establish a kind of open consensus about the close of outstanding open positions. It failed, as both the submitted amounts and exchange rates were far from expectations. Out of the euros 5.3 billion EUR purchased only a few hundred millions were sold. Two out of four auctions were entirely unsuccessful. Interestingly, the most successful auction relatively was the last, where the MNB announced that it would hold no more auctions.

In addition to that, the commercial banking sector heavily criticised the central bank's new intervention technique, especially the MNB's decision not to publish the aggregate result of the individual auctions in order to avoid sending any undesirable exchange rate signals. The results were communicated to the auction participants on a bilateral basis – similar to a normal OTC market transaction.[4]

3.3 Silent intervention

As indicated above, covert intervention started right after the first open interventions. However, for obvious reasons, these were suspended during the period of currency auctions.

Finally, (classical and non-conventional) open market interventions taught the MNB the lesson that the market had interpreted the central bank's announced foreign exchange sales either as a sign of its intention to strengthen the forint or as a sign of weakness, which did not contribute to the outflow of speculative capital.[5] Therefore, after the foreign exchange auctions the MNB gave up the open euro sales, but went on with silent intervention. An important principal here was to follow the general OTC market rules and conventions. The MNB, as one of the OTC market participants, entered into foreign exchange transactions on a bilateral basis at the current market rate. Partners were domestic and international banks with set-up foreign exchange limits with the central bank. The deal size amounted

[4] In reaction to the criticism the MNB organised a meeting with the Hungarian Forex Association where it explained its aims and motivations with the auctions. This was taken positively received by market participants.

[5] The MNB considered the reduction of excessive speculative positions as a pre-condition to reinstate the pre-attack monetary policy framework.

from euros 10 to 230 million. The regular and long-standing presence of the MNB in the international foreign exchange market greatly helped build the channels of silent intervention.

Using these intervention techniques, by 24 February the MNB had sold approximately half of the 15-16 January intervention amount, allowing the central bank the possibility of restoring its instruments. On 24 February 2003, the monetary council passed a decision on restoring the monetary instruments to their state prior to the speculative attack. Accordingly, the interest rate corridor surrounding the central bank base rate was narrowed to ±1%, and the quantity restriction on the two-week deposit facility was removed at the same time.

The market operations following the reinstatement of monetary instruments were primarily aimed at preventing the outflow of the remaining speculative capital from causing any excessive fluctuations in yields or the exchange rate. Therefore the euro sales also continued after the reinstatement of the instruments, but at a slower pace. While not aimed at influencing the forint exchange rate, the small amounts of currency sales allowed the winding up of speculative positions.

The MNB continued the silent intervention until 23 May, bringing the amount of euros sold at the market exchange rate to euros 3.8 billion. Of the euros 5.3 billion inflow of hot money arising from the central bank's intervention at the band edge, a further amount of approximately euros 1.2 billion was cooled off by means of market participants' (mainly exporters) hedging transactions. This enabled the MNB to declare that most of the capital associated with the speculation on appreciation had left the country. Therefore the MNB announced that from 26 May it would stop intervening within the band and return to its former strategy of using interest rate policy to control the exchange rate.

The combined interest rate and intervention measures, taken by the MNB to fend off the speculative attack, successfully cooled down expectations of a shift in the band. The speculators participating in the unjustified speculation in January 2003 had to post massive losses. Based on the MNB's calculations, they realised a total loss of approximately forints 60 billion (euros 240 million). The MNB realised exchange rate gains totalling forints 43 billion.[6]

4. Conclusions

The speculation failed partly because, in contrast to the experience of a number of emerging countries and previous ERM crises, this speculation was intended to force a revaluation of the domestic currency rather than its devaluation. Even though volume data on foreign exchange market products clearly show that the liberalisation of foreign exchange regulations potentially boosted speculators' power, this recent experience reveals that it is much more difficult to beat the central bank at the strong edge of the exchange rate band than at the weak edge.

This is partly because here intervention causes foreign currency reserves to increase, with no natural upper limit. Second, avoiding this kind of speculation needs a reduction in interest rates, which is, in the short term, significantly less worrying for the financial sector than a major rise in interest rates following speculation aimed at pressuring monetary authorities to devalue.

The other big lesson was that targeting a quantity, rather than an exchange rate level, means a considerably different challenge for the central bank. Experiences showed that under these circumstances covert intervention proved to be more successful than open foreign exchange market intervention.

Finally, it became clear that regular and long-standing presence in the international foreign exchange market can help greatly under such extreme market circumstances. Experienced dealers, well-established market information channels, existing foreign exchange dealing lines were crucial in the efficient management of the situation.

[6] Interestingly, the Hungarian banking sector – which did not actively participate in the speculation – increased its earnings and showed an increase of over 50% in the sector's after-tax profit in 2003 Q1, relative to the corresponding period in 2002, partly due to the huge number of executed and processed transactions.