Box IX-1
The exchange rate of the króna and the interest-rate differential with abroad

According to standard economic theory, a rise in the monetary policy rate affects the exchange rate of the domestic currency in two ways. One is the direct impact caused by the wider interest-rate differential with abroad making domestic securities more attractive to investors. Demand for the domestic currency increases, causing it to appreciate. The other effect is indirect, whereby higher interest rates may cause households to expect lower inflation in the future, which in turn lowers expectations of a future currency depreciation.

The Chart shows the interest-rate differential between Icelandic and foreign twelve-month interest rates on money market bills and the effective exchange rate of the króna since the beginning of 2000. It shows that interbank rates rose in Iceland until the differential reached 8 percentage points towards the end of 2001. However, the króna depreciated at the same to a low in November 2001. Why did the króna depreciate then in spite of a sizeable rise in interest rates?

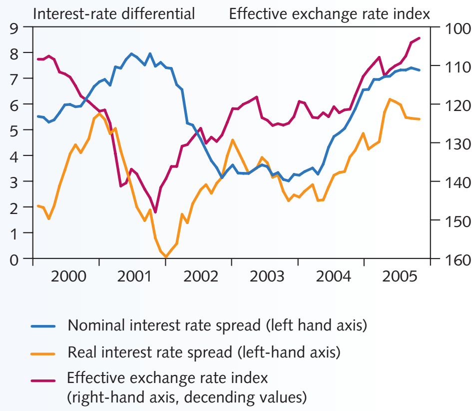
This development is easier to understand by adjusting the interest-rate differential for the difference in inflation between Iceland and other countries, i.e. by examining the real rather than nominal interest-rate differential. It transpires that although interest rates went up considerably in Iceland in 2000 and 2001 as a result of rises in the Central Bank's policy rate, they did not keep pace then with the surge in inflation in Iceland, which was much greater than among its main trading partner countries. Thus the interest-rate differential with abroad narrowed in real terms at the same time as it widened in nominal terms and the króna depreciated.

As this example shows, a distinction must be made between the part of the greater nominal differential that implies a widening in real terms and the part reflecting a higher rate of domestic inflation than in other countries. In the former case, demand for domestic securities increases and the króna generally appreciates, all other things being equal, as has happened from the beginning of 2004 to the present day. Over this period, the interest-rate differential has widened from roughly 2½ percentage points to roughly 5½ percentage points and the króna has appreciated by almost 16%.[1]

In the second case, while the yield on domestic securities is admittedly higher than before, higher domestic inflation increases the probability that the appreciation of the króna will unwind later, since the real exchange rate appreciates if the nominal rate remains unchanged, which will ultimately drive the nominal exchange rate back down to rebalance the competitive position of domestic production vis-à-vis foreign production. Expectations of an eventual depreciation create investor aversion towards the króna, for fear of subsequent exchange-rate losses. They therefore seek to close their positions in domestic securities, despite higher nominal yields, and the króna depreciates.

The long-term exchange rate development of a currency seems easier to understand by examining its interest-rate differential in real rather than nominal terms. However, it should be remembered that short-term forecasting of exchange-rate developments has proved

Chart 1
Interest rate and exchange rate
February 2000 - October 2005
At end of month



Sources: EcoWin, Central Bank of Iceland.

1. Using real interest rates calculated from the difference in contemporary inflation between Iceland and its main trading partners.

extremely difficult and they often appear to bear little relation to the underlying economic fundamentals.[2] Although economists consider the above theories to be based on insights that give an accurate picture of the forces driving exchange rates, the Chart also shows that other factors may be at work, and sometimes the exchange rate trend runs contrary to simple theoretical predictions. This can be seen, for example, from exchange rate developments in 2000, when a sizeable depreciation took place in spite of a considerable rise in interest rates at the same time. Capital inflows in connection with investments and fluctuations in investors' general confidence also exert an effect. One consequence of such swings may be that real interest rates go up at the same time as the currency depreciates.

2. See, for example, What determines the exchange rate of currencies?, *Monetary Bulletin* 2001/4, Box 3, 24-26.