THE KRONA'S PATH

Since 1975 the Swedish krona's effective nominal TCW exchange rate has weakened almost 90 per cent. The fact that for long periods, inflation in Sweden was higher than in the rest of the world accounts for approximately half of this deterioration, while the other half is explained by a depreciating real exchange rate.

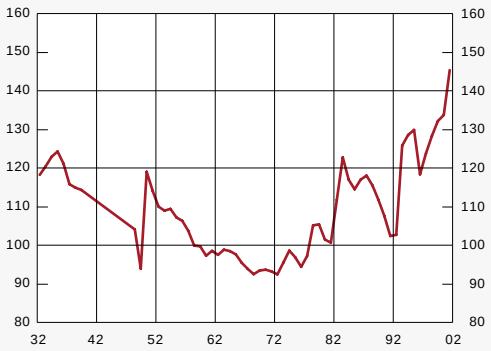
A real exchange rate measures the level of costs or prices in one country relative to other relevant countries in a common currency. The question of whether a currency is over- or under-valued is often discussed in terms of the real equilibrium exchange rate, which is the level associated with external and internal balance. Internal balance implies full resource utilisation in the domestic economy, external balance that foreign debt is not growing uncontrollably.

So what are the forces behind the real exchange rate and its equilibrium level? The doctrine of purchasing power parity asserts that two countries should have identical price levels expressed in a common currency, in which case the real exchange rate will be constant over time. Inter-country differences in the rate of inflation will be balanced by nominal exchange rate movements. A historical review shows, however, that in practice the real exchange rate tends to fluctuate (Fig. B6).[22] As purchasing power parity seems to hold only in the very long run, there will accordingly be considerable periods when the real exchange rate is under- or over-valued.

There are other theories for explaining the real exchange rate. According to one of them, the real equilibrium exchange rate is determined by a combination of countries' relative rates of productivity growth and their terms of trade (the relative price of a country's goods in the world market). It is easy to see that the development of the balance on current account can also play a part.

Terms of trade. A relative deterioration in terms of trade implies that the country in question earns less on exported goods and pays more for imports. Another way of putting this is that imported goods become more expensive in relation to domestic products. To pay for a given volume of imported goods, the country has to sell more exports or consume fewer imports. In order

Figure B6. Real exchange rate.

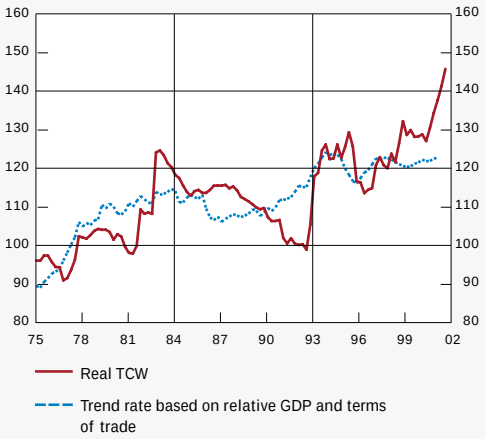


Note. A linear interpolation has been used to overcome the lack of observations for 1940–47; see also the footnote on this page. Data up to the end of September 2001.

Sources: IMF and the Riksbank.

22 The curve represents the effective real exchange rate, calculated by weighting together the average annual bilateral real exchange rates with Sweden's main trading partners (in this case the G-10 countries plus Denmark, Finland and Norway), using (relative) TCW weights.

Figure B7. Real and trend TCW index based on a simple model with relative GDP and terms of trade.



Source: The Riksbank.

to restore equilibrium, the real exchange rate has to weaken.

Productivity growth. Stronger productivity growth compared with the rest of the world will lead to an appreciation of the real exchange rate to equalise the competitive position with the rest of the world. High productivity growth is usually associated with a comparatively high potential GDP growth rate. In a country where GDP growth is higher than in the rest of the world, the real exchange rate should therefore normally tend to appreciate. However, the theoretical relationship between productivity growth and the exchange rate is not clear-cut; under certain assumptions it may be reversed.

Current-account balance and foreign debt. A country with a persistent current-account deficit will generate more and more foreign debt and thereby increasingly large interest payments. A weakening of the real exchange rate is required so that the country can export more and finance the interest payments. In a country where the net external position is negative there may therefore be periods when the exchange rate is weak. The current account and external debt can also be affected by other factors such as demographic developments.

In addition to the above, it is conceivable that the krona is affected by factors that to some extent stem from currency markets flows. The most general flow-related explanation is the short-term interest rate differential. Another factor that has affected the exchange rate from time to time is the state of the government finances; growing government debt can lead to expectations of higher inflation.

Assessments of the krona's future path are bound to be uncertain. Simple estimations suggest that an interpretation of this path can be guided by the relationship between the real exchange rate, relative GDP growth differences and terms of trade. The real exchange rate's path in the 1970s and 1980s, for example, can be explained to a large extent by the relatively weaker growth in Sweden and deteriorating terms of trade. Real TCW and an estimation with such a model are presented in Fig. B7. However, there have been certain periods, for example 1990- 93 and the past two years, when the path has been more difficult to explain. Relative GDP growth in recent years would speak, if anything, in favour of a stronger exchange rate, while the poorer terms of trade in the past year can account for only a minor part of the depreciation.

So has the exchange rate been affected by other factors in recent years? As the long-term interest rate differential with Germany has been more or less constant, there are no grounds for supposing that uncertainty about economic policy has been important. Neither is it likely that the differential in short-term rates has played a major part, although the possibility of effects from time to time cannot be ruled out.

The exchange rate discussion has focused recently instead on the effects of specific flows. There has, for example, been a close relationship in recent years between the exchange rate and the Stockholm stock market (Fig. B8). It looks as though the krona has tended to weaken when foreign investors have withdrawn from the stock market. A similar effect seems to have come from Swedish investors' sizeable purchases of foreign securities (partly in connection with altered investment regulations for the new national pension system). The Stockholm bourse also reflects the real economic situation. The slump in IT and telecom shares is also due to weaker terms of trade; at the same time, the problems for these industries have resulted in lower export receipts.

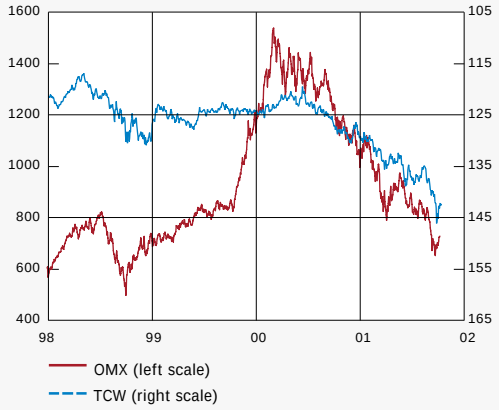
A weakness of explanations of this type is that the effects do not seem to be either systematic or symmetric. Periods when share prices have risen, for example, have not been accompanied by a strong appreciation of the krona. Neither does there seem to have been any clear relationship between the exchange rate and the Stockholm stock-market before 1999 (Fig. B8). Nor has the exchange rate depreciated in other countries where the stock market has fallen, for example the United Kingdom, Switzerland and Japan. In the absence of a firm foundation for assuming that the exchange-rate effects of flows are systematic, their value as forecasting variables is comparatively limited.

An overall assessment of the Swedish krona's path prompts three central conclusions:

- One important explanation for the nominal depreciation in recent decades is that inflation was higher than in the rest of the world. This accounts for approximately half of the nominal depreciation since the 1970s. The other half - the depreciation in real terms - is mainly due to GDP growth in Sweden being lower in long periods than in the main competitor countries.

- Since the policy realignment in the 1990s, inflation and growth in Sweden have been in line with the rest of the world. Against this background, there are no

Figure B8. OMX and TCW indices.



Source: The Riksbank.

grounds for expecting marked deviations in the future. It is therefore unlikely that the krona's depreciation can be explained by these factors. Although terms of trade have deteriorated in the past year, that is hardly a reason for seeing this as something which will burden the krona in the future.

- The depreciation in recent years is presumably connected to some extent with factors such as portfolio flows and financial unrest. Another element has been a cyclical fall in export receipts. These are factors that should be largely reversed when a recovery comes.

A number of more structural explanations of the krona's weakening have also been aired in the public debate. Examples are the structure of the tax system, the internationalisation of companies with the attendant relocation of certain functions, the status of the Swedish krona as the importance of the euro grows in Europe, and so on. Work is in progress at the Riksbank to arrive at a better understanding of how aspects of this type are also likely to affect the krona.[23]

23 *Mitlid, K. (1998), The krona's role outside EMU, Quarterly Review* 1, Sveriges Riksbank.