Zdeněk Tůma: The exchange rate forecast

Speech by Mr Zdeněk Tůma, Governor of the Czech National Bank, at the Forecasting Dinner 2007, Czech National Bank, Prague, 22 February 2007.

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Ladies and gentlemen, dear colleagues,

Over the last few years when I had the opportunity to open the Forecasting Dinner I tried to discuss several issues connected with forecasting at central banks. Three years ago I discussed the forecasting process at the Czech National Bank in general. A year later I went through uncertainty and the role market forecasts can play as an information source in central bank decision making. And finally, last year I talked in more detail about the inevitable uncertainty surrounding any attempt to forecast and about the observation that this specific feature of any forecast quite often seems to be forgotten. Following this nice tradition, tonight I shall talk in more detail about one of the critical issues in forecasting: the exchange rate forecast.

There is little doubt that the exchange rate plays a critical role in any attempt to forecast the business cycle in a small open economy. Consequently, an exchange rate block is of primary importance in any tool the central bank may use for forecasting. If you look at central banks' models, however, you will find that the exchange rate equation is in fact always governed by a very simple relationship called – in economic jargon – the "uncovered interest rate parity".

If there is no risk premium, the uncovered interest rate parity relates interest income in the domestic economy with interest income in the foreign economy via the expected change in the exchange rate.

For a better understanding we may use the example of our current situation. The one-year interest rate in the Eurozone is slightly above 4%, while the Czech one-year interest rate is less than 3%. In spite of this negative interest rate differential we still see many investors holding Czech crown-denominated assets. Why? Simply because financial market participants expect the Czech crown to appreciate in the future and thus compensate for the negative interest rate differential.

Although the uncovered interest rate parity has been heavily criticised and disapproved as being practically non-functioning, it is used in macroeconomic models. Well, as an economic modeller you simply do not have any other option. The uncovered interest rate parity is directly implied by the profit-maximising behaviour of financial market participants.

We probably all agree that the behaviour of financial market participants is led by profit maximisation (given the level of risk). At the same time, however, surely at least a few of you here in the audience would seriously argue that a relationship such as the uncovered interest rate parity does not hold in reality and that it is a purely theoretical concept. The uncovered interest rate parity is, however, implied by the profit-seeking mechanism. Indeed, it says no more than those profits must be equal across similar economies and that it is the deliberate search for the highest profit that makes them equal.

Of course, the criticism is more sophisticated than just saying that something is not working. The critics argue that the empirical evidence on the non-performance of the uncovered interest parity is overwhelming. Yes, it is right that over recent decades much empirical testing has been done on historical data, most of it showing the poor ability of the uncovered interest rate parity to predict future exchange rate movements. It has even been shown that purely statistical models such as random walk outperform the uncovered interest parity in the short run.

The question, however, is to what extent the tests were done correctly and more importantly to what extent is it at all possible to estimate a relationship that works with expectations using econometric techniques and historical data.

Fortunately for the proponents of economic modelling based on microfounded economic relationships such as the uncovered interest rate parity, the history of monetary policy provides many examples of exchange rate crises and speculative attacks that clearly support the functioning of the uncovered interest rate parity. However surprising it may be, the majority of currency crises and speculative attacks were in fact caused by central banks overlooking the uncovered interest rate parity relationship.

Usually it starts with a central bank deciding to boost its credibility by fixing its currency to a respectable one. The Deutsche Bundesbank and the rest of today's Eurozone members (the former Exchange Rate Mechanism members) may serve as a useful example. By imposing the uncovered interest rate parity predicts that the pegging central bank either follows the interest rate policy of the leading central bank or faces significant pressure on its exchange rate.

Well, this is exactly what happened, for instance, in the 1980s when the Banque de France tried to lower its interest rate below that of the Deutsche Bundesbank, and again at the beginning of the 1990s when the Bank of England and Banca d'Italia did not want to follow the policy tightening of the Deutsche Bundesbank. In both cases the opening of a negative interest rate differential created depreciation pressures on the exchange rate. As you may well know, the British pound and Italia lira were subsequently forced to abandon the Exchange Rate Mechanism. The existence of exchange rate crises and speculative attacks thus serves as clear empirical evidence in favour of the uncovered interest rate parity.

In addition, recent empirical studies based on advanced econometric techniques and using intraday data have shown that when the historical data are used properly the result may support the uncovered interest rate parity concept.

The exchange rate plays a crucial role for the Czech economy as well and is therefore an important part of our forecasting devices. And yes, the core forecasting model we use relies on the uncovered interest rate parity equation. It is also true that the movements of the exchange rate observed recently have surprised us to a certain extent. These surprises, however, should be taken as economic shocks that no economic relationship could have predicted.

We central bankers are not very interested in short-term volatilities, but we should not miss breaks in the business cycle. For this task we need a relationship that has an economic grounding in the profit-maximising behaviour of the financial markets. And this is what the uncovered interest rate parity certainly has, and what the statistical models lack.

Ladies and Gentlemen, allow me to wish to all of us fewer exchange rate surprises and the best possible forecasts!