

## Box 7.1

### Central Bank's Inflation Forecasts and Monetary Policy Stance

Since 2006, the Central Bank of the Republic of Turkey (CBRT) has published its inflation forecasts and the basic assumptions underlying these estimates through inflation reports in the framework of the inflation-targeting regime. In this box, we discuss role of the central bank's inflation forecasts within the inflation-targeting regime and their relationship with the monetary policy stance in terms of the CBRT's experience.

#### Inflation Forecasts in the Inflation Targeting Regime

The main features of inflation targeting regime are: the public announcement of numerical inflation targets, monetary policy guidance by the inflation forecasts, and increased transparency and accountability (Svensson, 2010). Inflation-targeting central banks determine the monetary policy strategy to hit the inflation target while monitoring the fluctuations in economic activity. Therefore, inflation targeting provides a "flexible" monetary policy framework.

As monetary policy decisions affect inflation with a time lag, central banks implementing the inflation-targeting regime formulate their monetary policy based on inflation forecasts. In other words, forecasts play an important role in the inflation-targeting regime, and consistency between forecasts and inflation targets is considered for policy decisions. That is why the inflation-targeting regime is also frequently called "inflation forecast targeting" (Svensson, 1997). Inflation forecast targeting means determining a policy interest path that keeps the inflation forecasts (future inflation) in line with the targets. In this context, it is important for the public to understand how inflation forecasts are formed and what monetary policy stance underlies these forecasts.

The monetary policy instruments used to ensure price stability have limited control over current inflation due to the lagged effects of pricing decisions, contracts and unpredictable shocks in previous periods. Moreover, monetary policy instruments may affect inflation with a certain lag within the monetary transmission mechanism. In addition, as the term over which the forecasts will converge to the targets (policy horizon) may vary depending on the conjuncture, how far inflation and output are from equilibrium values, and the magnitude and type of shocks to the economy, "medium-term" forecasts are taken into consideration when formulating and interpreting the policy stance.

In order to understand and interpret the medium-term projections correctly, one has to understand the two-way dynamic interaction between monetary policy decisions and inflation forecasts: on the one hand, all current and future monetary policy stance has to be attuned to alter inflation towards the inflation target over the monetary policy horizon and keeping it there; on the other hand, inflation is affected by monetary decisions via the monetary transmission mechanism. Therefore, monetary policy decisions have to be endogenous in medium-term inflation projections. In other words, macroeconomic aggregates and monetary policy affect each other in dynamic and multifaceted ways that medium-term projections require a general equilibrium approach. Hence, in our framework every medium-term projection includes an endogenous monetary policy path in the background. When inflation significantly deviates from the target, a smooth medium-term inflation projection path is generated with an endogenous interest rate path in which inflation takes a while to converge to its targeted level as it takes time for the monetary transmission mechanism to affect inflation. From this perspective, the medium-term projection path can be interpreted as an interim target path towards the final inflation target level (Svensson, 2010).

## The CBRT Experience

Since the official declaration of the inflation targeting regime in 2006, the CBRT has announced its medium-term inflation projections in quarterly Inflation Reports. These projections involve an endogenous monetary policy decision stance in the background. In Inflation Reports, inflation forecasts as well as output gap projections are published directly through fan charts and numerical figures, whereas the underlying endogenous monetary policy stance is described by indirect verbal statements. Moreover, some of the risk factors that may affect the future path of both baseline inflation forecasts and monetary policy rates are discussed, and some possible monetary policy responses are outlined.

When medium-term projections are generated, all shocks and external factors, all macroeconomic policies and all dynamic interrelations of monetary aggregates are analyzed thoroughly using the Forecasting and Policy Analysis System. Although future shocks and external factors cannot be estimated perfectly, basic assumptions about those can be established with the help of available data and expert judgements. Between two Inflation Reports, these basic assumptions are constantly corrected as new data is released and a new analysis is conducted by the CBRT experts using the new information set. The new endogenous monetary policy path and new medium-term inflation forecasts are constructed based on all interim updates to basic assumptions and all current and future economic policies. The updates to the monetary policy path and/or medium-term projections depend on the type, magnitude and persistency of new shocks. Two concrete examples will be presented below to illustrate what this means.

For instance, in case of a temporary positive supply shock to unprocessed food such as an unexpected increase in crops due to favorable weather conditions or productivity growth, which are the factors outside the domain of monetary policy, unprocessed food prices decrease. That might drive consumer inflation below the projections of the former reporting period in the short run. When revising the projections, considering the fluctuation is temporary and monetary policy decisions have limited impact on unprocessed food prices, the monetary stance is set to react to only secondary effects in inflation expectations or the pricing behavior rather than to primary effects of the aforementioned shock on consumer inflation. Accordingly, while the projection path is revised downwards in the short term owing to primary effects, medium-term forecasts are kept intact under a looser monetary stance due to the secondary effects of unprocessed food prices, which is inside the monetary policy domain and would have kept the inflation trend downward without a looser monetary policy. Changes in international crude oil prices, taxes and administered/ regulated price adjustments, and temporary fluctuations in exchange rates arising from global developments might be evaluated likewise.

On the other hand, since a positive country risk premium shock leads to a trade-off between inflation and economic growth, the monetary policy reaction is determined by taking into account the magnitude and persistence of the shock, the distance of inflation to target, the existing levels of the output gap, and the potential effects of the shock on the financial sector and real economy. The reaction of monetary policy might differ substantially with respect to these factors. When hit by a non-temporary risk premium shock, inflation rises due to the exchange rate pass-through and expectations, while the additional tightness in financial conditions might slow economic activity. In this case, all upward and downward impacts on the inflation outlook should be assessed, and the monetary stance should be adjusted to keep actual inflation on a par with the targeted path, or inflation forecasts should be revised upwards.

Amidst high levels of inflation and inflation expectations, the duration of reaching the target (policy horizon) has been extended because of the high cost of achieving the inflation target within the control horizon. Thus, it is important that the Bank's published projections function as interim targets in order to anchor inflation expectations and to hinder the trade-off between inflation and economic growth within the disinflation process. Communicating the revisions to the forecast path and/or monetary policy stance and their underlying reasons in a transparent way, enhancing the predictability of monetary policy, strengthening the role of forecasts in shaping inflation expectations, and anchoring expectations are of vital importance to attaining the inflation target at lower cost.

### References

- Svensson, L. (1997), "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets", *European Economic Review*, vol. 41, pp. 1111-1146.
- Svensson, L. (2010) "Inflation Targeting," in Friedman, Benjamin M., and Michael Woodford, eds., *Handbook of Monetary Economics*, Volume 3B, chapter 22, Elsevier 2010.