Chapter 57
Inflation Inertia and Inflation Persistence in Romania Using a DSGE Approach

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ABSTRACT

The main purpose of this chapter is to investigate monetary policy dynamics, as well as the inflation inertia and inflation persistence in Romania using a DSGE approach. The empirical findings revealed that the price evolution reflects the difficulties of eliminating the inflation inertia. Moreover, in Romania, the historic inflation evolution has a significant influence in terms of inflation expectation patterns. Inflation is a negative phenomenon with dramatic consequences for Romania's economic development on long term.

INTRODUCTION

All known empirical studies are confirming the importance of knowing the monetary policy transmission mechanism and the existing literature admits that. Knowing the inflation dynamics is also crucial in the monetary analysis. A deep monetary analysis offers important information both to decision factors as well as to consumers and investors. Within this study we propose to emphasize some inflation-related aspects in Romania. More exactly, we will try to evaluate the inflation persistence and the inflation inertia. Furthermore, we will analyze the interest rate channel in Romania, and we will hold out the prospect on the central bank behavior through Taylor's rules.

Knowing the degree of inflation persistence (i.e. the period where inflation tends to reach its steady state level after a shock) offers to central bank vital information about how the interest rate must be adjusted in order to reach a desired target for the inflation rate. Moreover, the nature of the inflation

dynamics, as well as the efficiency of monetary policy dynamics depends to a great extent on the pattern and the characteristics associated to the formation of prices. That is why it is important to determine the degree of inflation inertia and its persistence.

The inflation inertia can be defined as being the process through which the current inflation is determined by its past history, being perceived through a prices slow reaction to the disinflationary policies. The inertia can be caused by the mechanism particularities of establishing the prices or the wages, by the importance which the backward-looking component has in forming the inflationary expectations, but also by the national banks policy concerning the exchange rate (Edwards, 1998). The inflation persistence is defined as a slow dissipation of the second-round effects after the shocks. We should mention that inertia differs from persistence (Cespedes et al., 2003). Inertia is defined as the speed of reaction of inflation to the unanticipated shocks, while the persistence is measured through the period of time necessary for these shocks' effects, once transmitted, to disappear.

In order to analyze the inflation persistence and inertia, as well as the central bank's monetary policy in Romania, we will utilize two dynamic stochastic general equilibrium (DSGE) models. The recurrence to this type of analysis is motivated by two reasons. Firstly, the use of DSGE model in the case of Romania is rather reduced. Caraiani (2009a, 2009b) estimated a set of such models to detect the Romanian economic dynamics. Secondly, the DSGE models are tools that offer a coherent framework for the monetary analysis, allowing the link stability between the economy structural characteristics and the model parameters. In the last 15 years, the premises of a remarkable progress in specifying and estimating these models were created. Thus, the central banks in the developed and emergent economies are using such kind of models for analyzing the economy dynamics as well as for making forecasts.

The paper is structured as it follows. In the second section the utilized DSGE models are presented. The third section comprises references to the obtained results as well as a monetary policy evaluation concerning Romania using the parameters from Taylor's rule and using the impulse response function extracted from the DSGE analysis. In the last section the conclusions are specified.

LITERATURE REVIEW

There is a significant number of empirical studies and theoretical analyses that approach the inflation evolution and offer a perspective on the monetary policy in Romania. Scutaru and Stănică (2005) used a structural autoregressive vector to capture the output gap evolution in Romania and they evaluated the effects of the inflationist shocks to the Romanian economy. A Philips relation between unemployment and inflation is also emphasized in the study. Boţel (2010) used a univariate approach to capture CORE3 inflation inertia in Romania. Caraiani used a range of DSGE models to analyze the Romanian economy dynamics. Thus, Caraiani (2009a) tackled the problem of the inflation persistence in Romania, using a standard CIA model and an augmented CIA model.

The author concludes that although with a simple structure the standard CIA model can replicate the inflation persistence from Romania but on periods smaller than a year. Caraiani (2009b) also estimated the Romanian economy's output gap using the DSGE model. The author concludes that, in comparison with the output gap estimated with the Hodrick-Presscot filter, the results of the DSGE approach offer a better and more consistent image of the output gap with the Romanian economy dynamics.

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