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Monetary policy rule in inflation targeting emerging European countries: A discrete choice approach

Aleksandra Nojković, Pavle Petrović*

Faculty Economics, University of Belgrade, Belgrade, Serbia

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Abstract

The paper explores all six emerging European countries that target inflation, showing that a discrete choice model captures well the behavior of their central banks, both their monetary policy rule and operational behavior. As to the latter, our findings suggest that these central banks change their policy rates in discrete fashion, i.e. only when the deviation between its (unobservable) optimal rate and actual rate surpasses certain threshold values. Estimates of Taylor rule contain relevant economic variables, including real exchange rate. However, evidence is offered that in Romania, Serbia and Albania the exchange rate is a goal for itself, while in the Czech Republic, Poland and Hungary it is an instrument to achieve inflation target, and this is related to different features of these two sets of economies. The use of the nonstationary discrete choice approach is well motivated as some explanatory variables are nonstationary.

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1. Introduction

This paper empirically assesses monetary policy rule in all emerging Europe inflation targeters, examining in particular the role of exchange rate, and explores operational behavior of the central bank in setting its target rate. Specifically, it estimates Taylor-like interest rate reaction function,

* Corresponding author at: Faculty Economics, University of Belgrade, Kamenička 6, 11 000 Belgrade, Serbia.
Tel.: +381 11 3338205.

E-mail addresses: anojkovic@ekof.bg.ac.rs (A. Nojković), pavle_petrovic@ekof.bg.ac.rs (P. Petrović).

while it is assumed and tested that the central bank changes its target rate in a discrete fashion. The methodology used is a nonstationary discrete choice approach of [Hu and Phillips \(2004a, 2004b\)](#).

It is empirically well established that the monetary policy of inflation targeting central banks in developed countries can be described by some form of Taylor function ([Clarida, Galí, & Gertler, 1998](#); [Svensson, 2011](#)), but the evidence for emerging economies, particularly the European ones, is scarce. Thus, a recent paper ([Frömmel, Garabedian, & Schobert, 2011](#)) has estimated monetary policy rules in six emerging Central and Eastern European economies, however, encompassing both periods of exchange rate and inflation targeting. The sample ends in August 2008 to avoid potentially distorting effects of the subsequent Great Recession; nevertheless, it sharply decreases inflation targeting periods in each country. Other estimates of Taylor rule in emerging central European countries (e.g. [María-Dolores, 2005](#); [Paez-Farell, 2007](#)) cover even shorter periods of inflation targeting in these economies.

As to the role of exchange rate in emerging economies monetary policy rule, there is some empirical evidence suggesting that it enters as a goal in itself above and beyond its impact on inflation (cf. [Aizenman, Hutchison, & Noy, 2011](#); [Mohanty and Klau, 2004](#)). Thus we shall explore whether the same holds for any of the inflation targeting emerging European countries.

This paper adds to the literature in several ways. Firstly, it examines monetary policy rule in all emerging European inflation targeters: the Czech Republic, Hungary, Poland and Romania, but also Albania and Serbia, i.e. the countries that have not been analyzed yet. Slovakia is skipped since even during its (informal) inflation targeting period (1998–2008) it still focused on exchange rate movements (cf. [Frömmel et al., 2011](#)). Secondly, we explore a longer period of inflation targeting in emerging European economies than the previous studies do, i.e. through December 2013. The large sample enables us to omit the first 18–24 months of inflation targeting in each country treating it as a transitional period. Thirdly, our sample encompasses the Great Recession, hence allowing us to assess whether estimated monetary rule can describe central bank monetary policy even in these extreme conditions. Fourthly, this paper opts for a discrete choice model in order to capture the stylized fact that the central bank changes its target rate in discrete fashion both in time, i.e. at its meetings that take place monthly or so, and in magnitude, i.e. as multiples of 0.25pp. Within this framework, one can jointly estimate the monetary policy rule and determine the timing of changes in policy interest rate. There are just a few studies of developed countries pursuing this approach, i.e. for the US (see [Danis, 2009](#); [Hu & Phillips, 2004b](#)), Canada (see [Hu & Phillips, 2004a](#)) and UK ([Bhattacharjee & Holly, 2005](#)), but no research for emerging economies. In addition, the discrete choice model used allows for nonstationary explanatory variables, as some of the variables in Taylor-like interest rate reaction function definitely are.

Policy ramifications of our findings are multifold. Exploring whether the same fundamental economic variables: inflation, output gap and inertia, enter monetary policy rule in emerging Europe inflation targeters as they do in their advanced countries counterparts, should indicate whether there is a room for improvement and hence for corresponding policy measures in the former set of central banks. Moreover while examining inflation targeters across emerging Europe we shall be looking whether some heterogeneity emerges, notably in the role played by exchange rate, as well as the possible asymmetrical central banks' behavior while respectively cutting and raising its policy rate. Differences across emerging Europe if any would then ask for diverse policy measures in order to remove respective hurdles to effective inflation targeting. Similarly, it has been already found that the impact of inflation targeting varies across individual regions of the world, hence asking for specific policies design fitting each region (see [Ayres, Belasen, & Kutan, 2014](#)).

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