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Inflation before and after central bank independence: The case of Colombia

Jesús Otero *, Manuel Ramírez

Facultad de Economía, Universidad del Rosario, Calle 14, #4-69, Bogotá, Colombia

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Abstract

In this paper we model the Colombian inflation rate in terms of excess demand effects from asset, goods and factor markets. In contrast to previous results for a group of industrial economies, we find that domestic factors are a far more powerful influence on inflation than are external factors. The paper pays particular attention to the potential effects of the Constitutional Reform of 1991, which created a Central Bank independent from other parts of government. We find that the creation of an independent Central Bank did change some of the parameters of the model, as the disequilibria in goods and monetary markets were found to have a smaller effect on inflation after Central Bank independence was granted.

JEL classification: C32; C51; E31; E58; O54
Keywords: Inflation; Cointegration; Market disequilibria; Central Bank independence; Colombia

1. Introduction

One of the main subjects of concern for policymakers and economists alike is the behaviour of inflation. Empirical evidence for a large number of countries reveals that high and variable rates of inflation are not consistent with sustained economic growth, because

* Corresponding author. Tel.: +57 1 297 02 00; fax: +57 1 344 57 63.
E-mail addresses: jotero@urosario.edu.co (J. Otero), maramire@urosario.edu.co (M. Ramírez).

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they shorten the planning horizon of investors and reduce the rate of productivity growth in the economy (see, e.g. Fisher, 1993; Barro, 1995). Understanding the main factors that affect the dynamics of inflation is thus crucial to help policymakers design measures to achieve a stable macroeconomic environment, and gain insight about the effects of their policies.

Economic theory suggests alternative views to explain the sources of inflation. A first view is associated with the monetarist school, according to which the main cause of inflation lies in expansions of the money supply in excess of real productivity growth. A second view focuses on the external factors that affect the domestic price level in an open economy, either through the transmission of import prices inflation in foreign currency terms into domestic inflation, or through the influence of the exchange rate on prices (via prices of imported intermediate and final goods). A third view lays emphasis on internal theories, which may be further subdivided into labour market theories and excess demand theories. The former highlights the role of the wage, being the result of labour demand and supply interactions, as a component of producers costs, while the latter refers to excess demand pressure effects. There has recently been an increasing interest in studying the effect of institutional factors, like the impact on inflation rate resulting from the degree of Central Bank independence from other branches of government (see, e.g. Alesina and Summers, 1993; Cukierman, 1992).

This paper investigates the determination of the rate of inflation in Colombia in terms of the explanations mentioned above. The basic idea of the paper is that inflation can be associated with excess money supply, demand pressure effects, imported inflation, and wage inflation. The analysis of the main determinants of inflation in Colombia has certainly been a topic of dynamic research throughout the years; see, e.g. Misas et al. (1999) and the references therein. To our knowledge, however, existing literature has not investigated inflation dynamics accounting for all explanations, as it has mainly focussed on only one of the possible origins of inflation. In addition, research on Central Bank independence has typically been addressed within the context of cross section or panel data, but not within a pure time series model as the one we present in this paper.[1]

Our empirical modelling exercise is implemented in two steps. First, we use multivariate cointegration techniques to test for the existence of long-run equilibrium relationships in three different systems of equations, describing the monetary sector, the foreign sector, and the labour sector. Second, the deviations from the estimated cointegrating relationships are included as determinants in an inflation model. In other words, we expect the inflation rate to adjust to deviations from the long-run cointegrating relationships derived in the first step of the analysis. Modelling inflation in terms of disequilibria from several sectors is important in numerous studies of other economies; see, e.g. Surrey (1989) for the US and the UK, Juselius (1992) for Denmark, and Hendry (2000, 2001) for the UK, among others. Surrey (1989) and Juselius (1992) find that, within the industrial economies considered, the external influence on domestic prices is a far more powerful influence compared to the domestic influence. Hendry (2000, 2001) finds that most theories of inflation help explain UK inflation over the last century and a quarter,

[1] See, e.g. Berger et al. (2001) for a review of recent research on central bank independence.