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Is there any link between legal central bank independence and inflation? Evidence from Latin America and the Caribbean

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ABSTRACT

This paper explores the effects of central bank independence (CBI) on inflation in a sample of 24 Latin American and Caribbean countries during 1985–2002. Using panel regressions, the paper finds a negative relationship between CBI and inflation. This result holds for three alternative measures of legal CBI, as well as for a measure of effective CBI, after controlling for international inflation, banking crises, and exchange rate regimes. However, the result is not entirely robust to the inclusion of an indicator of structural reforms that typically accompany changes in central bank legislation. In addition, evidence of causal relationship running from CBI to inflation is only supported by the results associated with the measure of effective CBI.

1. Introduction

The 1990s entailed a decade of deep changes in central bank legislation worldwide. In many countries, central bank laws were reformed, increasing their autonomy in the design and execution of monetary policy with the objective of attaining and preserving price stability.[1] These legal reforms were considered particularly promising in countries with a previous history of high inflation and government interference in monetary policy. As part of this trend, and after decades of persistent inflation and macroeconomic instability, central bank reform was extensively adopted by Latin American countries (LAC), starting with Chile in 1989. Typically, improvements in central bank independence (CBI) in LAC were accompanied and supported by far-reaching structural reform agendas, which were also aimed at laying the ground for faster and sustainable economic growth. In contrast, central bank reform was largely absent among Caribbean countries (CAR).

On the theoretical side, changes in central bank legislation were motivated by the insights of the early time-inconsistency models of Kydland and Prescott (1977), and Barro and Gordon (1983), which showed that governments facing a trade-off between inflation and unemployment would tend to choose higher-than-optimal inflation rates. Latter work pioneered by Rogoff (1985) proved that this inflationary bias could be reduced by delegating monetary policy to an independent and conservative central banker, providing the basis for the subsequent wave of central bank reform.

Empirical work applied to industrial countries has provided support to this idea, showing that increased CBI, usually proxied by indexes based on the provisions of central bank laws, or by the turnover rate of central bank governors, is negatively associated

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[1] In this paper, central bank “autonomy” and “independence” are used interchangeably, as usual in the literature.

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with inflation (see a survey by Berger et al., 2001). Evidence from developing countries, however, seems to be less conclusive. An early study by Cukierman et al. (CWN) (1992) reported a negative relationship between legal CBI and inflation for industrial countries, but failed to obtain similar results for developing countries. This asymmetry was attributed to a likely gap between legal and effective CBI, particularly in developing countries. A study by De Haan and Kooi (2000) using the turnover of central bank governors as a more direct measure of effective CBI, however, also failed to find a robust relationship between CBI and inflation. Results from parallel studies applied to Latin America and the Caribbean have been also inconclusive (Jácome, 2001, and Gutiérrez, 2003).

The findings of this literature have been contested on some grounds, including the possibility of omitted variable bias (Posen, 1995; Campillo and Miron, 1997; De Jong, 2002) and reverse causality running from inflation to CBI (Posen, 1993, 1995). Furthermore, since most studies are based on cross-country approaches, they have some limitations to capture the temporal dimension of central bank reform—an issue particularly relevant for the case of developing countries.

Some of these shortcomings have been addressed in other studies. The possibility of omitted variable bias was tackled by Loungani and Sheets (1997), who studied a sample of transition economies and reported a negative relationship between CBI and inflation, even after controlling for other economic policies such as fiscal performance and economic reforms. Another step forward was taken by Cukierman et al. (2002), who extended the CWN index to 26 transition economies during the 1990s, keeping track of CBI both during pre- and post-reform periods. After controlling for price liberalization, they concluded that increased CBI was unable to contain the initial inflationary effects of price liberalization, but showed that higher CBI became effective against inflation after the reform process acquired momentum.

This paper examines the relationship between CBI and inflation in developing economies, using a sample of 24 countries in Latin America and the Caribbean during 1985–2002. It relates to Cukierman et al. (2002) in two aspects. First, it extends the CWN index to a regional sample of developing economies and keeps track of CBI during the pre- and post-reform periods, exploiting both the cross-sectional and the time dimensions of the data. The sample of Latin American and Caribbean countries provides a rich experiment for the hypothesis being tested, given the widespread adoption of central bank reform in Latin America, and the extraordinary reduction in inflation attained since the early 1990s. Second, it takes into account the effects of broader structural reform policies that usually go together with changes in central bank legislation. Since these typically include trade liberalization, labor market reform, tax reform, privatizations, and other structural policies with potential effects on inflation, the results obtained are less vulnerable to the possibility of omitted variable bias.

At the same time, this paper departs from Cukierman et al. (2002) in four aspects. First, it exploits both the cross-sectional and time-series dimensions of the data by using panel regressions. Previous studies work with the average values of the series during pre- and post-reform periods, treating them implicitly as independent observations. Second, this paper tests for a causal relationship running from CBI to inflation by taking into account the likely endogeneity of central bank reform. Third, it performs robustness checks on the results by using two alternative indexes of legal CBI, namely the Grilli et al. (1991) index, and an extended version of the CWN index, which adds key aspects of the new central bank legislation in Latin America. Finally, following early work by Cukierman (1992) and Cukierman et al. (1992), the paper also performs an alternative robustness check using an index of effective CBI based on the turnover rate of central bank governors.

The results show a negative relationship between the four alternative indicators of CBI and inflation, after controlling for international inflation, banking crises, and exchange rate regimes. However, the results are not entirely robust to the addition of an indicator of structural reforms in the sampled countries. Moreover, after taking into account the possible endogeneity of central bank reform, the paper finds a casual relationship running from CBI to inflation only for the tests based on the turnover rate of central bank governors. Overall, these findings provide some support to the idea that increased CBI is conducive to lower inflation, and are consistent with the existence of a gap between legal and effective CBI in Latin American and Caribbean countries. Furthermore, the results indicate that structural reforms have played an important role on the observed disinflation in the region, illustrating the complementary nature of various dimensions of economic policies.

The rest of the paper is as follows. Section 2 describes the indexes of CBI used in the paper. Section 3 provides a map of central bank reform in Latin America and the Caribbean using cluster analysis. Section 4 performs a set of empirical exercises to assess the relationship between CBI and inflation, and explores causality. Section 5 concludes.

2. Measuring central bank independence in Latin America and the Caribbean

The baseline index of CBI used in this paper is the CWN index, which is the best known and mostly widely accepted indicator in the literature. The CWN index is based on the legal provisions of central bank laws and related legislation, and varies between zero and one, with a larger value indicating stronger CBI. The CWN index is calculated by taking the weighted average of 16 criteria that can be classified into four broad categories: provisions on the tenure of the central bank governor and the rules for his appointment and dismissal (20 wt.%), provisions on central bank objectives (15 wt.%), provisions on the formulation of monetary policy (15 wt.%), and provisions on central bank lending to the government (50 wt.%). According to the CWN index, a central bank is considered more independent the longer the governor's term in office and the more shielded from the government are the procedures for his appointment and dismissal, the more focused on price stability are the central bank objectives, the more autonomous the central bank is in the formulation of monetary policy, and the more restrictive are the provisions on lending to the government.

The paper also exploits two alternative measures of legal CBI. The first is the Grilli et al. (1991) index—from now on the GMT index—which comprises 15 criteria of political and economic independence. It assigns a binary value of zero or one to each category and adds them up. Therefore, the GMT index varies between zero and 15, with a larger value indicating stronger CBI.