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# Do monetary, fiscal and financial institutions really matter for inflation targeting in emerging market economies?

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ABSTRACT

Most emerging market economies (EMEs) which have implemented inflation targeting have continued to miss inflation targets, even for countries with good institutions. This paper studies the importance of institutional quality such as central bank independence, fiscal discipline and financial sector development for the achievement of inflation targets in EMEs using a panel ordered logit model. It finds that the improvement in institutional quality reduces the probability of inflation target misses and that monetary policy is more effective in countries with good institutions. However, macroeconomic variables such as exchange rate gap, output gap and trade openness also explain inflation target outcomes.



## 1. Introduction

During the 1990s many emerging market economies (EMEs) adopted inflation targeting (IT). However, they have continued to miss their inflation targets frequently and sometimes by wide margins, leading to loss of credibility. This problem persisted despite significant institutional reforms. This pattern has therefore raised questions about the intrinsic role of institutional structures in the achievement of inflation targets in EMEs.

Two views have emerged in the literature about the success of inflation targeting EMEs in terms of achieving their inflation targets. On one hand, some authors such as Brito and Bystedt (2010), Mishkin (2004), Fraga et al. (2003) and Samarina and De Haan (2014) argue that the success of this regime in EMEs is limited because of institutional shortfalls and output and inflation volatility trade-offs from external shocks. On the other hand, Lin and Ye (2009) and Batini and Laxton (2006) argue that fragility and lack of good initial institutional conditions does not necessarily impede the successful implementation of inflation targeting in EMEs. They argue that most EMEs adopted IT in the absence of ideal institutional conditions. They stress that the feasibility and success of IT depends more on the authorities' commitment to price stability and their ability to plan and implement institutional changes after adopting inflation targeting.

Despite the intensity of this debate, few papers have analysed the role of monetary, fiscal and financial institutional structures in the achievement of inflation targets.[1] However, Gosselin (2008) provides some insights. He uses pooled regressions

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[1] The deviation of inflation from the target bands can be considered as an indicator that the central bank has not been successful especially if it leads to credibility losses. However, there are other indicators which can be considered in determining the overall success of an inflation targeting regime.

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to explain inflation target deviations from the mean on a sample of developed and developing IT countries and finds that central bank independence and fiscal balances among other variables seem to explain inflation target deviations. However his results are susceptible to heterogeneity bias because the institutional frameworks of developed and developing countries differ. In fact, pooling countries with different characteristics together may increase this bias especially if slope parameters of individual regressions differ across sections. Moreover, his study uses inflation deviations from the mean as indicators of IT performance. By this, he assumes that central banks set inflation target points. Yet in practice, most central banks especially in EMEs set inflation target bands (Svensson, 1997).[2] This may result in missing an important dimension in the setting of inflation targets and the role of institutions for inflation performance of IT in EMEs.

To the best of our knowledge, no work has been done on the role of institutional factors in explaining inflation target deviations from the bands in EMEs. This paper fills this gap. Specifically, it aims at addressing the fundamental question of whether the ability to achieve inflation target bands is affected by central bank independence (CBI), fiscal discipline and financial sector development in EMEs. This is important because large and frequent inflation target misses can undermine monetary policy credibility. Within the same framework, the paper also tests if these institutional structures enhance the effectiveness of monetary policy.

This paper contributes to the existing literature in three ways. Firstly, it characterises and analyses inflation target deviations from the bands as opposed to deviations from the mean, pinning down institutional differences. Inflation target deviations from the bands are intuitively appealing as measures of central bank performance because most central banks consider inflation to be consistent with their long term inflation objectives if it is within the target band (Agenor, 2000). Also, inflation target bands may act as thresholds for accountability, where some central banks are required to issue explanatory statements when they miss the target bands (see e.g. Svensson, 1997; Bernanke et al., 1999).[3] In addition, Svensson (1997) argues that, in practice, inflation targeting is flexible as central banks set inflation target ranges or tolerance intervals rather than target points only.[4] Finally, target bands suggest a nonlinearity in the policy response function, depending on whether inflation is within the bands or not. This is consistent with the apparent tendency of central banks to react to inflation when it becomes a problem, but concentrate on other objectives when it is under control (Orphanides and Wieland, 2000).

Secondly, the paper isolates and focuses on EMEs. The characteristics of these countries are different from advanced countries. Unlike advanced countries, most EMEs have a long history of institutional shortfalls, high past inflation records and monetary policy mismanagement which could account for their current large inflation target deviations (Mishkin, 2004). Since these countries form a key group in the world economy, they provide an appropriate sample to test the role of institutional structures for IT performance.

Thirdly, the paper uses a novel empirical strategy to estimate the effects of institutional variables as well as other macroeconomic variables on inflation target outcomes. Consistent with the nonlinearities in policy responses to different inflation target outcomes, the paper models the achievement of inflation target bands or deviations from the bands by employing the panel ordered logit model. This technique addresses the nonlinearity issue by carefully identifying and distinguishing between various inflation target response thresholds; that is, below the target band, within the target band and above the target band, as they are affected by institutional factors and other control variables. It also uses fixed effects to account for unobserved heterogeneity between countries. More importantly, the paper develops a new computational strategy to obtain the marginal effects of different inflation target outcomes of an ordered logit model in the panel data context.

The empirical evidence shows that some institutional variables have significant predictive power on the probability of inflation missing the target bands. Precisely, countries with more independent central banks tend to achieve the inflation target bands frequently. In fact, two proxies of CBI are used: legal CBI indices and turnover rate of central bank governors. When the legal CBI is the measure of independence of central banks, the results show that it increases the probability of achieving inflation target bands by reducing mainly the probability of exceeding the upper target band. A 1% increase in CBI increases the probability of achieving the target band by 0.16%, while reducing the probability of being above the band by 0.11%. When the turnover rate of central bank governors is used, no significant effect on the probability of achieving or not achieving the target band is found. This result suggests instead that in EMEs, lower turnover of central bank governors may not necessarily be a sign of more independent central banks.

Also, using two proxies of fiscal discipline; budget deficit to GDP and the ratio of debt to GDP, the paper finds that countries with weak fiscal institutions have a higher probability of having inflation higher than the upper target band. An increase in the budget deficits to GDP ratio increases the probability of being above the upper target bound while it reduces the probability of being under the lower target bound. When budget deficits to GDP are replaced with the domestic debt to GDP ratio, similar effects are observed. The paper also investigates the importance of financial sector development in IT using two indicators; private credit to GDP ratio and liquid liabilities to GDP. The evidence shows that an increase in private credit to GDP ratio increases significantly the probability of inflation staying in the target band. But when liquid liabilities to GDP ratio are used, no significant effect is found.

[2] In some cases central banks set inflation target points, but they include tolerance bands.

[3] This is the case in Israel, Brazil, Thailand and the Philippines. Other inflation targeting advanced countries which issue public statements when they miss inflation target bands are the UK, Canada, Sweden and New Zealand. However some central banks use "escape" clauses in accountability arrangements.

[4] Svensson (1997) supports his argument by noting that the achievement of specific numerical inflation targets is impossible due to imperfect control of inflation.