

# Effects of adopting inflation targeting regimes on inflation variability

Hakan Berument<sup>a,\*</sup>, Ebru Yuksel<sup>b</sup>

<sup>a</sup>*Department of Economics, Bilkent University, 06800 Ankara, Turkey*

<sup>b</sup>*Department of Industrial Engineering, Cankaya University, 06530 Ankara, Turkey*

Received 21 April 2006

Available online 11 September 2006

---

## Abstract

This paper investigates whether inflation-targeting programs have altered the pattern of inflation and its variability for five developed countries and four emerging economies implementing inflation-targeting programs. A GARCH specification is used to model inflation variability, which accounts for public perception of the future levels of inflation variability—conditional variance. We could not find lower conditional inflation expectations except for Australia, Chile and Sweden under various specifications. Moreover, the conditional variance decreases only for Chile and the UK. Therefore, the empirical support for the lower inflation and its variability for the inflation targeting regimes is limited.

© 2006 Elsevier B.V. All rights reserved.

*Keywords:* GARCH; Inflation targeting and inflation variability

---

## 1. Introduction

In the 1990s, the monetary policy concerns of many countries changed in the direction of low and stable inflation with the purpose of economic growth, low inflation uncertainty and growth sustainability. Therefore, many developed and developing countries started to adopt inflation-targeting programs to improve their economic performance. Although inflation-targeting programs have been mostly successful in achieving the targeted inflation levels, there are various debates on the performance of these programs.

One of these discussions is about the effect of inflation-targeting programs on inflation variability. It is valuable to analyze the behavior of inflation uncertainty because it affects macroeconomic variables such as output, investment, interest rate. For example, Friedman [1], Froyen and Waud [2] and Holland [3], argue the presence of the adverse effect of inflation uncertainty on output; Hafer [4] and Holland [5] elaborate on the negative effect of inflation uncertainty on employment; Berument [6] shows that inflation variability raises UK's 3-month treasury-bill rates.

---

\*Corresponding author. Tel.: +90 312 290 23 42; fax: +90 312 266 51 40.

E-mail addresses: [berument@bilkent.edu.tr](mailto:berument@bilkent.edu.tr) (H. Berument), [yuksel@cankaya.edu.tr](mailto:yuksel@cankaya.edu.tr) (E. Yuksel).

URL: <http://www.bilkent.edu.tr/~berument>.

There is contradictory evidence about the performance of inflation-targeting programs in achieving lower inflation volatility. Some studies claim that the adoption of inflation-targeting programs does have an impact on reducing the inflation variability, while some argue that this effect is not present.

Regarding inflation uncertainty, some argue that inflation variability and inflation expectations decrease after the adoption of inflation-targeting programs. Dittmar et al. [7] and Gavin [8] elaborated on the performance of these programs in reducing the volatility of inflation. The former study gives evidence from G-10 countries about the behavior of inflation and its variance, and then explains analytically how inflation-targeting programs can be successful in decreasing inflation variability. Gavin [8] further supports this proposition by reviewing the experience of other inflation-targeting countries.

Some studies assert that, in the inflation-targeting countries, a decrease in the inflation expectations and inflation variability should be attributed to the effectiveness of inflation-decreasing programs not to the adoption of inflation targeting regimes. Cecchetti and Ehrman [9] claimed that inflation-targeting programs are not the sole factor in lowering inflation volatility and inflation expectations. Cecchetti and Ehrman [9] discussed both theoretically and empirically on the link between inflation variability and output volatility under inflation-targeting programs. In this study, data is used from 9 inflation-targeting countries (Australia, Canada, Chile, Finland, Israel, New Zealand, Spain, Sweden, the UK) and 14 non-inflation-targeting countries (Austria, Belgium, Denmark, France, Germany, Ireland, Italy, Japan, Korea, Mexico, Netherlands, Portugal, Switzerland, the US). They argued that the monetary policymakers in these countries preferred to take actions that favor a reduction in the volatility of inflation compared to a drop in output volatility. Thus, it is not the inflation-targeting programs but the general tendency of the policymakers to reduce inflation that can be considered the main reason for the drop in the level of inflation in the countries analyzed (see, for example, [10–14] for further support of this issue).

Two of the other studies ([15,16]) elaborated on the effectiveness of inflation-targeting programs on inflation uncertainty. In these works, Johnson used inflation surveys of experts to measure the expected inflation and variability of inflation and showed that an inflation-targeting regime decreases the level of expected inflation; however, the variability of inflation forecast errors does not decrease significantly in the targeting countries (Australia, Canada, New Zealand, Sweden, the UK) compared to not targeting countries (France, Germany, Italy, Japan, Netherlands, the US).

To quantify inflation variability, a variety of measures are employed by different studies, but none of these studies measures the perception of the public on inflation risk. In existing studies in the literature, only the observed variability was measured, only short-run dynamics of the variability were assessed or the measurement of perception was biased. Cecchetti and Ehrman [9] and Dittmar et al. [7] used the deviation of realized inflation from the targeted value as a measure of inflation variability. This type of specification measures observed changes in inflation. In contrast, Johnson [15,16] employed standard deviation of inflation forecasts collected through a survey and conducted among professional forecasters. Although this method is a good measure of variability of expected inflation, as Bomberger [17] argued, survey-based studies have the problem of biased or unreliable data. The people who take part in the survey may be biased, may not give an objective forecast or may not be able to use all the available information. As a result, the standard deviation of these forecasts would not be a reliable measure of the perception toward inflation risk, which is an important measure of the credibility of the program. Another measure of inflation variability, the bivariate stochastic volatility framework, is employed by Arestis et al. [13] and Arestis and Mouratidis [14]. This type of specification is advantageous for modeling inflation-output variability and is designed to evaluate the short-run dynamics of inflation-output variability trade-off but fails to capture the public's perception of the inflation risk.

Unlike the above models, this study uses ARCH/GARCH type of conditional inflation variability specification as a measure of inflation variability. This specification measures the perception of the public on inflation variability rather than the variance itself. Inflation uncertainty series are examined to determine whether inflation-targeting programs have a significant effect on the evolution of inflation variability. In this way, we will be able to see whether inflation-targeting programs can really convince the public in the variability of inflation has been reduced. This is the contribution of this study to the existing literature, in which public perception has not been considered before.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات