



# Inflation targeting: Is IT to blame for banking system instability?



Dimas M. Fazio<sup>a,\*</sup>, Benjamin M. Tabak<sup>b</sup>, Daniel O. Cajueiro<sup>c,d</sup>

<sup>a</sup>London Business School, University of London, London, NW1 4SA, United Kingdom

<sup>b</sup>Department of Law and Economics at Universidade Católica de Brasília, CEP 70790-160, Brasília-DF, Brazil

<sup>c</sup>Department of Economics at Universidade de Brasília, FACE, CEP 70910-900, Brasília-DF, Brazil

<sup>d</sup>National Institute of Science and Technology for Complex Systems at Universidade de Brasília, FACE, CEP 70910-900, Brasília-DF, Brazil

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## ABSTRACT

In light of the financial crisis, the practice of inflation targeting (IT) has been blamed for authorities' failure to respond to the increase in financial systemic risk and to the development of asset bubbles. However, utilizing a rich database containing nearly 5500 commercial banks from 70 countries (among which, 22 are IT) for the period 1998–2012, this paper argues that on average, inflation targeting national banking systems (i) are more stable; (ii) possess sounder systemically important banks; and (iii) are less distressed than (or at least as distressed as) other banks during periods of global liquidity shortages. Our results are robust to a series of tests, such as when we compare countries with the same legal origins or control for the delegation of bank supervision responsibility to bodies other than the central bank. Overall, we conclude that IT cannot be blamed for contributing to financial fragility.

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## 1. Introduction

There is strong evidence that inflation targeting (IT) has helped countries reduce inflation during the first years of implementation and anchor long-run expectations (Mishkin, 1999; Johnson, 2002; Bean, 2009). A traditional view of inflation targeting – also known as the Schwartz (1995)'s hypothesis – holds that price stability leads to more predictable returns and, therefore, to improved financial performance. In fact, periods of high inflation may lead to excessive borrowing and large loan defaults when prices start to decline. Nevertheless, some specialists have recently argued that central banks (CBs), by focusing on reducing inflation, overlooked the banking system and the development of asset bubbles (Blanchard et al., 2010). According to them, this behavior might have increased financial fragility and it might have even created the necessary conditions for the financial crisis of 2007 and 2008 to occur.

\* Corresponding author. Tel.: +44 2070008979.

E-mail addresses: [dimasfazio@gmail.com](mailto:dimasfazio@gmail.com) (D.M. Fazio), [benjamin.mtabak@gmail.com](mailto:benjamin.mtabak@gmail.com) (B.M. Tabak), [danielcajueiro@gmail.com](mailto:danielcajueiro@gmail.com) (D.O. Cajueiro).

Despite this ongoing discussion on whether the inflation targeting is to blame for the recent financial turmoil, empirical studies that test these viewpoints are not conclusive.<sup>1</sup> Our study fulfills this literature gap by providing empirical evidence on whether the risk-taking level of banks from IT countries are higher than banks from non-IT countries. In other words, we test whether the combination of price stability, and enhanced CB's communication/accountability can reduce the likelihood of a crisis in the financial sector. We employ a database containing 5468 commercial banks from 70 countries (22 of which are IT, according to the International Monetary Fund (IMF)) during the period 1998–2012. The richness of these data allows us to produce meaningful interpretations of results whose validity is not limited to a specific case or country. In addition, to our knowledge, this is the first study to analyze the effects of IT on banking stability utilizing disaggregated data.

Our empirical approach answers the following questions. First (Q1), we ask whether banks from IT countries are, on average, more fragile. We answer this question by regressing a measure of

<sup>1</sup> See for instance the working papers by Frappa and Mésonnier (2010) and Fouejieu (2013).

financial stability on a dummy variable that equals one if the bank operates in an IT country. We observe a large, positive and significant coefficient for this variable, indicating that banks are more stable under IT. Second (Q2), we test how this advantage varies for different levels of inflation by interacting the IT dummy with a price index variable. We observe a negative coefficient for this interaction, meaning that banks are more sensitive to higher inflation, and that the IT advantages are no longer statistically significant for high levels of inflation (index around 10%). Our third question (Q3) is whether banking systems from IT countries are more vulnerable during periods of global uncertainty (i.e., periods with a higher Libor-Overnight Index Swap (Libor-OIS) spread). Our results dismiss this idea, since there is some evidence that banks from IT countries are more resilient to global liquidity shocks, or as vulnerable as others at the very least. Finally, our last question (Q4) compares the risk-taking levels of systemically important banks from IT and non-IT countries. In other words, are regulators from IT countries less preoccupied with systemically important financial institutions? We do not find evidence to support this claim; these large and interconnected banks are more stable in countries that adopt IT.

These results do not necessarily say that the traditional channel from price stability to financial stability is in place. We only conclude with these results that the criticism of IT may not be entirely justified. Other factors may explain why some banking systems suffered more than others did; inflation targeting, however, does not seem to be one of them. In fact, low and predictable inflation together with a more transparent monetary policy by the CBs seems to affect positively financial stability.<sup>2</sup> In addition, one must bear in mind that the both the U.S. and countries from the Eurozone were the most affected by the recent financial crisis, even though they are not explicit inflation targeters according to the IMF.

We also address others potential alternative explanations for our results. One potential criticism regards the presence of a potential identification problem: countries may have thought necessary to stabilize the financial system as a pre-requisite for the IT policy. According to this view, the IT policy is not the main responsible for the increased banking soundness in our results, but hypothetical reforms in the financial sector prior to the IT implementation. We do not believe that this criticism holds for two reasons. First, the pre-crisis dichotomy between monetary policy and financial stability made authorities conduct these two policies separately. CBs were not used to including financial frictions/fragility in their general equilibrium models (Mishkin, 2011), which mean that they did not believe that financial stability was a condition to promote price stability. Only recently has financial stability become as important as price stability for CBs around the world (Cukierman, 2013). The second reason is that our estimations control for both economic and financial development country-specific factors.

One should also be careful when choosing the control groups with which we compare banks from treatment countries. We acknowledge that there still may be economic and legal environment restrictions playing a role in the differences we uncover between banks in IT and non-IT countries. Therefore, we also present robustness results disaggregated by legal origin groups, as defined by La-Porta et al. (1997, 1998). These authors divide countries into groups depending on the origins of their legal systems, i.e., English (Common Law) or French, German, and Nordic (these last three are considered Civil Law). The results are consistent overall. Some few coefficients are no longer significant, but they maintain the same signs from the main model. In addition, we are able to observe some heterogeneity of our conclusions depending on the legal system. Therefore, banking systems that practice IT

outperform – or perform similarly to – other banking systems with similar legal and economic environment.

Finally, some countries possess supervisory bodies that are separate from the CB. Criticism of inflation targeting may be valid only in countries where the CB is also responsible for bank supervision. Otherwise, the argument that IT CBs are not concerned with financial stability might not apply. Thus, we utilize information about whether the supervisory body is outside the CB from the well-known (Barth et al., 2001, 2004, 2008, 2013) database. The majority of our results hold when we re-estimate our models after introducing this new variable.

The remainder of this paper is organized as follows. Section 2 presents the opposing views in the literature regarding the relationship between inflation targeting and financial stability. Section 3 discusses the data, sources and variables employed in our empirical models to answer the four questions posed by this paper. Section 4 presents our main empirical results together with some discussion on them. In addition, there are robustness tests to our results in Section 5. Finally, we conclude in Section 6.

## 2. Inflation targeting and financial stability

According to Mishkin (2004) and Heenan et al. (2006), inflation targeting consists of four elements: (i) an explicit CB mandate to pursue price stability as the primary objective of monetary policy and accountability for performance in achieving the objective; (ii) explicit quantitative targets for inflation; (iii) policy actions based on a forward-looking assessment of inflation pressures that considers a wide range of information; and (iv) increased transparency of monetary policy strategy and implementation. Therefore, in addition to setting an explicit target, countries that adopt this policy also experience enhanced CB communication and accountability that may increase the transparency of monetary policy and better anchor agents' expectations.<sup>3</sup>

Recent evidence suggests that IT is a monetary policy that reduces inflationary pressures and anchors price expectations in countries that implement it. In fact, these countries have passed through an initial period of disinflation by setting annually decreasing targets until a target of approximately 3% could be set (Roger, 2010). According to Gonçalves and Carvalho (2009), these disinflation periods have not been as costly in terms of output losses as in non-IT countries. The authors argue that this result from the enhanced communication and accountability of monetary authorities under IT regimes. However, these results are contested by Brito (2010) who demonstrates that Gonçalves and Carvalho (2009) select only *ad hoc* four IT disinflation periods and compare them to earlier costly disinflation periods under different economic conditions. When either the sample is expanded or economic conditions are controlled, the results are inverted: IT countries' disinflation is costly in terms of output.

Notwithstanding the ambiguity of the real costs of disinflation, lower levels of inflation have, *ceteris paribus*, positive effects on financial stability. The traditional view argues that price stability is also beneficial to financial stability. According to the European Central Bank, "(p)rice stability contributes to achieving high levels of economic activity and employment by (...) contributing to

<sup>2</sup> See Geraats (2002) for a survey regarding the impact of CB transparency and accountability on the economy as a whole. The empirical evidence is favorable to our findings.

<sup>3</sup> According to a survey by Geraats (2002), even though the benefits of monetary policy transparency may depend on the assumptions made by the theoretical model (see Lepetyuk and Stoltenberg, 2013), there is large empirical evidence that supports the advantages of reducing asymmetric information between the CB and the private sector. For instance, Crowe (2010) shows that IT reduces the informational asymmetry between the CB and the private sector. The author finds that inflation forecasts improve significantly in IT countries compared to non-IT countries. The results are even more meaningful for private sector agents who had higher forecast errors previous to the IT implementation.

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