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Balance of payments crises under inflation targeting ☆

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Abstract

This paper analyzes a small open economy model under inflation targeting. It shows why such a monetary regime is vulnerable to speculative attacks that take place over a short period rather than instantaneously. The speed at which the regime collapses, and the extent of reserve losses, are increasing in the central bank's explicit or implicit commitment to intervene in the foreign exchange market. Attacks are therefore ranked, from most to least severe, as follows: Exchange rate targeting, CPI inflation targeting, domestic nontradables inflation targeting, and money targeting. Under inflation targeting the size of the attack is increasing in the tradables consumption share.

Keywords: Balance of payments crisis; Inflation targeting; Exchange rate targeting; Foreign exchange intervention; Flow speculative attack

JEL classification: F41; E52; E58; E63

1. Introduction

This paper analyzes a small open economy model under monetary regimes that target inflation. It distinguishes between consumer price index (CPI) inflation targets and domestic nontradables inflation targets. It is explained why such regimes are vulnerable to speculative currency attacks that take place over a short period of time rather than instantaneously as under exchange rate targeting. The severity of attacks, measured by the speed at which the regime collapses, or

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alternatively by the extent of reserve losses, is increasing in the central bank's explicit or implicit commitment to intervene in the foreign exchange market. This commitment is strongest under exchange rate targeting, and successively weaker for CPI inflation targeting, domestic inflation targeting, and money targeting. These theoretical points are general, but they appear to us to be most relevant to emerging markets.

Inflation targeting started to be used by the central banks of several advanced economies in the early 1990s. The list of countries now using it includes Australia, Canada, Finland, New Zealand, Sweden, and the UK. It is widely perceived as having been successful there, see the discussions in Leiderman and Svensson (1995), McCallum (1996) and Bernanke, Laubach, Mishkin and Posen (1999). Inflation targeting is now increasingly being used or considered by emerging economies. Following the currency turmoil of the Mexican, Asian, Russian and Brazilian crises, several of them have had to let their currencies float. The task has shifted from crisis management to designing a new permanent monetary policy framework. There is a widely shared view that for emerging economies the option of simply fixing the exchange rate is no longer viable, and that the choice is between a fixed exchange rate with a very strong form of commitment (such as a currency board or full dollarization) and flexible exchange rates.[1] Several emerging economies such as Brazil, Chile, Colombia, Mexico and Poland have chosen the latter. Given the well-known problems associated with choosing a monetary aggregate as the nominal anchor, they have opted for an inflation target.

In the policy debate one of the major advantages of inflation targeting is often claimed to be that it does not leave an economy vulnerable to a speculative attack. The logic is that a run on reserves can be averted because the central bank can simply let the exchange rate go. In this paper we show that, if the policymaker is fully committed to the inflation target, this is generally not correct. The reason is that in an open economy an inflation target always implies a commitment to intervene in the foreign exchange market to defend that target. That commitment makes a speculative attack possible.

We choose as our expository device a simple but fully microfounded first generation balance of payments crisis model related to Calvo (1987). The model includes both tradable and nontradable goods, which allows a natural specification of the CPI. Extensions to second generation speculative attacks are possible. As discussed in Krugman (1996), these also require a commitment to intervene in the foreign exchange market to defend a target plus some form of vulnerability.[2] Furthermore, in our opinion first generation models are still a very appropriate framework for many emerging markets. As discussed in Masson, Savastano and Sharma (1997), in most of these economies the government budget remains a source of instability. The reasons include a weak fiscal revenue base, a rudimentary tax collection system, the contingent bailout liabilities attached to weak banking systems, and simple overspending at the federal or regional level. There is therefore a real danger, much more so than among industrial country inflation targeters, that only the monetary part of an inflation targeting program may be adequately implemented, just as has so often been the case in the past for exchange rate based stabilizations.

Our paper is part of the large literature on inflation stabilization and balance of payments crises in developing countries that is surveyed in Calvo and Vegh (1999). Their survey concentrates on

[1] Several influential researchers disagree with this new orthodoxy, see e.g. Frankel (1999) and the discussion in Mishkin and Savastano (2000).

[2] In fact, as described by Carstens and Werner (1999) and Morande and Schmidt-Hebbel (1999), contagion-driven speculative attacks on inflation targets did happen in Mexico, Chile and Israel (among others) in 1998, following the Asian and Russian crises. The Chilean case is discussed in more detail in Section 4.2, along with the Brazilian attacks of 2001/2, which did reflect perceived problems with economic fundamentals.