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Food prices and inflation targeting in emerging economies

Marc Pourroy [a,*], Benjamin Carton [b], Dramane Coulibaly [c]

[a] CRIEF (EA2249), University of Poitiers, 2 rue Jean Carbonnier Bat A1, TSA 81100, 86073 Poitiers cedex 9, France
[b] CEPREMAP, France
[c] EconomiX-CNRS, University of Paris Ouest, France

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ABSTRACT

The two episodes of food price surges in 2007 and 2011 followed by a drop in 2014 have been particularly challenging for developing and emerging economies' central banks and have raised the question of how monetary authorities should react to such external relative price shocks. We investigate the optimal monetary policy that manages food price shocks. To this end, we develop a new-Keynesian small open-economy model that incorporates world food price shocks. We show that the optimal monetary policy depends on country income level. In low and medium income countries, overall consumer price targeting is optimal, while in high-income countries non-food inflation targeting is the best option. This result holds not only because food represents a significant share in total consumption in low and medium income countries, but also because of food good composition. Indeed, the poorer the country, the higher the share of purely domestic food in consumption and the more detrimental lack of attention to the evolution in food prices.

* Corresponding author.
E-mail addresses: marc.pourroy@univ-poitiers.fr (M. Pourroy), benjamin.carton@cepremap.fr (B. Carton), dramane.coulibaly@u-paris10.fr (D. Coulibaly).

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1. Introduction

The last few years have been intensely challenging for central bankers. The financial crisis has had tremendous negative effects on developed economies and major spillover effects on emerging economies (large capital inflows and outflows). At the same time central bankers had to manage the dramatic volatility in food prices. According to the United Nations Food and Agriculture Organization (FAO), in the period 1996–2006, world food prices rose on average by only 0.05% per semester in real terms; from 2007 to 2011 they have risen by an average of 2% per semester,[1] that is, by 25 times more. This period of fast increase in food prices has been followed by a similar decline: between February 2011 and May 2015 food prices have dropped by 41%.

The most frequently mentioned causes of food price volatility include extreme weather conditions, increased demand from emerging countries caused by growth in incomes, increased costs volatility to farmers due to high oil prices volatility, rapid development of biofuels, adoption of restrictive trade policies by major net exporters of key foods products such as rice, and speculation in commodity markets. So, for the monetary authorities of almost all small open economies, these shocks were perfectly exogenous from their policies or their own country situations, and were unanticipated.

The high fluctuation in food prices is questioning how monetary policy should react to these external shocks. The present paper tries to find some answers. Specifically, we examine how monetary authorities in developing countries should respond to food price shocks. The case of developing countries is interesting for two main reasons.

First, in low-income and emerging economies, food consumption represents a significant share of household expenditure. Table 1 shows that food budgets represent around 50%, 30% and 20% of the household budgets in low-income, middle-income and high-income countries, respectively. Therefore, in these countries, changes in food prices will induce significant variations in their headline inflation.

Second, low- and middle-income countries are characterized by a large share of non-tradable products in their food consumption. For instance, even if a country is an exporter of a given agricultural product, the domestically consumed variety is often of a different (e.g. lower) quality, is produced in different fields and does not share the logistics infrastructure of the exported variety. Different cultures induce different diets, some cereals and tubers are country specific and not traded. Even if volumes of agricultural imports are large, they represent at most half of the country's food consumption (see Table 1).

Thus, developing economies are characterized by a large domestic food sector. This is a crucial aspect of this analysis of the effects of a world price shock on a small open economy. Since the domestic food sector is country specific, it evolves with the domestic environment. Pricing strategies do not reflect directly the world market. But since domestic and tradable food goods are highly substitutable, the domestic food sector is impacted on by the evolution in the world market. So, in studying the pass-through from the world market price to the domestic overall consumer price index (CPI), a major issue is the passage from the tradable food goods price to the non-tradable food goods price. This channel is a striking feature of developing economies and a major concern for monetary authorities.

In this study, we examine particularly the performance of an inflation targeting framework to manage food price shocks in developing countries. By definition, an inflation targeting framework requires the choice of a measure of inflation as the target. Targeting countries generally use core inflation as the target. There are several methods used to compute core inflation. The most common approach, which is exploited by many countries, is the exclusion method, which computes core inflation by removing the prices of a fixed, pre-specified set of items from the CPI basket. The excluded components are chosen because they are considered either volatile or susceptible to supply

[1] The period beginning in 2006 (or post-great moderation) has been characterized by two price surges: the FAO price index increased by 54% between January 2006 and June 2008, declined of 34% between June 2008 and December 2008, then rose by 53% before stabilizing in December 2010.