
COMMENTARY

The contribution of food subsidy policy to monetary policy in India

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ABSTRACT

Food price volatility is a major threat for welfare, economic prosperity and political stability. The monetary authority is generally viewed in the literature as the only institution responsible for price stability; however this approach overlooks the importance of food price stabilization policies using fiscal instruments. We develop and estimate a Bayesian DSGE model that incorporates monetary and fiscal policy tailored to India, replicating food demand and food supply subsidies. We find that following a world food price shock, CPI and therefore interest rate volatility would be 21% higher in the absence of food subsidies. Putting this effect aside would lead to overestimating the

effectiveness of inflation targeting by the central bank. Accordingly, we find that the subsidy policy has large heterogeneous distributional welfare effects: while farmers benefit from all subsidies, the inclusion of urban households into the demand subsidy program is required to offset supply subsidy welfare cost.

Key Words: *Food price; Political stability; Volatility; Stabilization policies; Fiscal policy*

INTRODUCTION

Not since the 1970s has the world experienced numerous episodes of high and volatile food inflation as it has since the mid-2000s acknowledged as an international crisis. This creates a challenge for the conduct of monetary policy, particularly for Low- and Middle-Income Countries (LMICs) with a large proportion of households that are credit constrained and the share of food expenditures is large. The literature generally assumes that the central bank is responsible for price stability. However, document that food subsidies are a common fiscal policy instrument designed to stabilize food prices in LMICs, where the share of people living under the poverty line is high; are prevalent in countries where the share of agricultural production is high; and are associated with households in countries that have a high share of food expenditures. Food price subsidies produce a gap between the actual selling price and a benchmark price. If such a gap exists, food prices are then considered “policy-driven”. We incorporate a food price subsidy and estimate a DSGE model using Indian data. Using India as an empirical study, our paper contributes to a small, albeit burgeoning literature on the conduct of monetary and fiscal policy in the presence of a food price shock. India provides an interesting case in point considering high food inflation has been chronic, particularly from 2006 to 2014, which was one of the highest in emerging economies where the average food inflation during that period was 8.4%. India also represents the second most populous country and has the largest

policy-driven distribution of subsidized food in the world. Food inflation has an important prominence in the conduct of monetary policy in India considering food represents a sizable share of household expenditures and where aggregate inflation expectations are anchored by food inflation accordingly, our research addresses three questions: to what extent does fiscal policy via food subsidies create price stickiness. Does the Reserve Bank of India (RBI) react to food price shocks? Is the interaction between monetary and fiscal policy a strategic complement or substitute? Stripped to its core, these questions relate to price stabilization, a topic central to macroeconomic research. Food price shocks can have potential repercussions on aggregate price stability, where the latter is considered one of, if not the most important, and objectives of most central banks around the world, a framework described as inflation targeting. The RBI has adopted an inflation targeting framework in May 2016 with a numerical objective for the CPI growth.

To our knowledge, there are a couple of novelties in our paper. We develop the first empirical (as opposed to calibrated) DSGE model to estimate the mechanisms through which food price shocks affect monetary and fiscal conditions via Bayesian methods. We incorporate an incomplete pass-through of food prices and fiscal policy food designed to stabilize food prices. Second, our paper is the first research that establishes and quantifies monetary policy and fiscal policy responses as a strategic substitute. By developing an empirically-grounded framework, our research goes beyond existing papers by

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showing that the optimal monetary policy is dependent on the effective subsidy policy and by discussing the distributional effects of these policies. We apply an empirical approach by using the posterior values from the empirical model to conduct welfare evaluation relating to welfare gains of different fiscal policy options. This has two main advantages: this method does not suffer from an “identification problem” as in single-equation estimation methods, and we produce counterfactual models to evaluate the interaction of monetary and fiscal policy by simulating what would be the monetary policy reaction to a world food price shock with and without food subsidies to understand the effect of that policy on the other variables. Our contribution overlaps with four strands of literature. First, the model is based on a voluminous literature on sticky price models which intersects with three features that are representative of LMICs: a fraction of consumers have no access to financial instruments and food prices are subsidized by a fiscal authority. The model incorporates a food and manufacturing sector representative of a LMICs. We decompose the food sector into a grain and non-

grain sector. We develop a model that captures the main features of government intervention following a pre-announced rule to concomitantly stabilize the producer price in the grain sector while shielding households from price fluctuations. There is a narrow literature to address price subsidies using a theoretical definition of optimal monetary policy. Ben Aïssa and Rebei develop a DSGE model to estimate welfare optimizing monetary policy rules for a large set of countries. They conclude that the optimal policy is a function of markets distortions. Considering that subsidies are heterogeneous across countries, they find no single optimal monetary rule would work for all countries. Using a DSGE model for a middle-income country, Ginn and Pourroy (2019) find that coordinated fiscal and monetary reactions to food price shocks can improve aggregate welfare. They also underline that subsidies smooth Consumer Price Index (CPI) and reduce the need for monetary policy action.