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Food prices and the efficiency of public intervention: the case of the public distribution system in India

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Abstract

As public intervention is a pervasive influence on food prices, this paper asks whether and how the inefficiency of state institutions matters to food prices. In the context of the wheat subsidy scheme in India, the paper models the implications of quality differences between public and private grain supply. As both are procured at similar prices, the lower quality of public grain marks the inefficiency of government operations. The paper proposes and empirically validates a method to test for demand switches that occur as a result of quality preference. As a result, a reduction in food subsidies increases food prices and hurts the poor even when they are not major recipients of the subsidy. This seeming paradox is contingent on the inefficiency of public interventions. Thus, the outcome will be different if the reduction in food subsidy were to be accompanied by reforms in the associated state agencies.

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Introduction

Public intervention is a pervasive influence on food prices in many countries. A large literature has built around the study of these interventions. In developing countries, these interventions are implemented by various state agencies and parastatals buying and selling food. Although it is known that the state marketing institutions perform their duties with varying efficiency, the literature has not paid as much attention to this issue as it does to the intervention itself. Does the inefficiency of state institutions matter to food prices and to the outcome of food policies? The point of this paper is to answer this question in the context of the wheat subsidy scheme in India.

It is usual for food subsidy schemes to operate along with private food markets. Comprehensive rationing schemes, where the state is the single intermediary between consumers and producers and has the monopoly over all domestic and foreign trade, were prevalent in the erstwhile socialist states. In most countries, however, food subsidy schemes are partial (Ahmed, 1988; Yitzhaki, 1990). Not all consumers receive the subsidy (such as, for instance, when the scheme is restricted to urban consumers) and neither is the government the sole buyer from the producers. It is then the case that many consumers depend, partially or wholly, on purchases from the market. It is apparent that, in partial subsidy schemes, the welfare of agents (both producers and consumers) depends not only on the price at which the government buys and sells food but also on the market price of food. The impact of a food subsidy scheme therefore depends on how the market price of food varies with the subsidy. Modeling this relationship is the object of our study.

The income transfers to households that receive subsidies may be expected to increase the demand for all market goods including market food (Sicular, 1988). This suggests that the market price of food should increase with subsidies. The reasoning is as follows. As long as the subsidy is positive, and if the market food is an exact substitute of subsidised supplies, consumers purchase food from the market only after exhausting their ration entitlement of subsidised food. The market demand of these consumers depends on the income received as price subsidy. A small increase in subsidy produces an income effect, which raises the demand for market food and thus its price.[1]

While the literature contains theoretical analyses of partial food subsidy schemes, there has been, to the best of our knowledge, no empirical estimate of the impact of food subsidies on the market prices of food. We investigate this relationship in the context of the wheat subsidy scheme in India, and discover that the market price varies inversely with the subsidy. This is contrary to the prediction noted in the earlier paragraph. The failure to match prediction cannot be ascribed to negligible

[1] More generally, subsidies on particular commodities such as food, housing and fuel would result in higher demands for non-rationed market goods. For evidence on such spill-over effects in the consumption behaviour of Chinese households, see Gao et al. (1996) and Wang and Chern (1992).