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# The impact of prices and macroeconomic policies on agricultural supply: a synthesis of available results

## A comment

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Mamingi (1997) (Agricultural Economics 16, 17–34) presents a very interesting review of the links between agricultural prices, macroeconomic policies, and agricultural supply. Many important and valuable empirical studies are elegantly summarized and referred to. Difficult theoretical issues are accurately discussed, especially regarding parameter estimation through statistical inference. It is shown that many other variables prices are important in shaping agricultural production. Although already stated by Nerlove (1979), this conclusion is disturbing, since it implies that market failures are possible.

Yet, I would like to go even further and open discussion on what is a key theoretical as well as political and practical issue, that is the variability of prices, and, consequently, price stabilization policies, which are conspicuously ignored in this paper.

In effect, the importance of risk considerations in shaping agricultural supply has for very long been a major concern of agricultural economists. For instance, using a programming model, Freund (1956) shows that the production level of beef and fall cabbage in North Carolina in 1954 cannot be understood unless it is recognized that these crops are much more risky than corn. Using essentially the

same methodology, many other studies came to similar conclusions. Roumasset et al. (1979) give an overview of the most ancient of these.

Later on, many authors, for instance Boussard (1985) or Just and Zilberman (1986), gave a full account of the theoretical reasons for why such a sensitivity of agricultural supply to price variability is present. More recently, Boussard and Gerard (1996) brought about statistical proofs that price stability was an important determinant of the long-run growth of agricultural supply, at the same time explaining some of the well known flaws of the Nerlovian model.

The political consequences of such findings are important: if price volatility is more important than their average level in explaining agricultural supply, then the relevant price policy instrument is not mean, but variance. This is a strong case for price support at a low level whenever production is to be boosted, as it is presently in Africa. On the contrary, when production is to be reduced, as in Europe or in America, letting prices float may be extremely (if not overly) efficient in achieving this goal. Especially in French-speaking Africa, the price guarantee given to export crops – while food crops were subject to large market fluctuations at the same time – goes a long way toward explaining the inability of these countries to feed themselves. Conversely, structural adjustment, by floating export prices, although at a higher average

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level than that of the previous guaranteed price, decreased rather than increased export crop production. Similar arguments and observations are reported by Timmer (1995) for southeast Asia.

The theoretical consequences are just as crucial. Burton (1995) and Boussard (1996) showed independently that – with very simple supply and demand models – assuming a producer risk averse behavior was sufficient for the market to find its equilibrium again after having been disturbed for a while. In such a circumstance, the dynamic structure of the price series is chaotic. Such a specification brings about a good deal of trouble, both in practical policy issues and in econometric estimation problems.

It seems to me that drawing attention to these issues was of some importance for Mamingi's readers.

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