FONDATION POUR LES ÉTUDES ET RECHERCHES SUR LE DÉVELOPPEMENT INTERNATIONAL

Food Price Changes, Price Insulation & Poverty*

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LA FERDI EST UNE FONDATION RECONNUE D'UTILITÉ PUBLIQUE. ELLE MET EN ŒUVRE AVEC L'IDDRI L'INITIATIVE POUR LE DÉVELOPPEMENT ET LA GOUVERNANCE MONDIALE (IDGM). ELLE COORDONNE LE LABEX IDGM+ QUI L'ASSOCIE AU CERDI ET À L'IDDRI. CETTE PUBLICATION A BÉNÉFICIÉ D'UNE AIDE DE L'ÉTAT FRANÇAIS GÉRÉE PAR L'ANR AU TITRE DU PROGRAMME « INVESTISSEMENTS D'AVENIR » PORTANT LA RÉFÉRENCE « ANR-10-LABX-14-01 »

World prices of storable foods tend to be volatile, with occasional intense but short-lived spikes and relatively long periods of below-average prices. Because movements in the domestic prices of staple foods tend are politically sensitive, many governments intervene to reduce the volatility of these prices by insulating their markets from the changes in world prices. While this can be effective in reducing the volatility of domestic prices, the collective impact of these interventions is to increase the volatility of world prices.

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• • • / • • • In this short note, we first look at the way in which governments intervene to reduce the volatility of domestic food prices. We then consider why they might behave in this way. Next, we turn to the implications of this behavior for world markets and for domestic prices. One possibility is that such interventions are pursued to the greatest extent by policy makers in the countries whose people are most vulnerable to food price shocks, and shift the burden of adjustment on to countries whose people are less vulnerable. We ask whether this was the case in the food price crisis of 2006-8 and find that the collective impact of all the interventions taken was to leave the impact of the crisis on the poor essentially unchanged.

Figure 1. Indexes of staple food prices

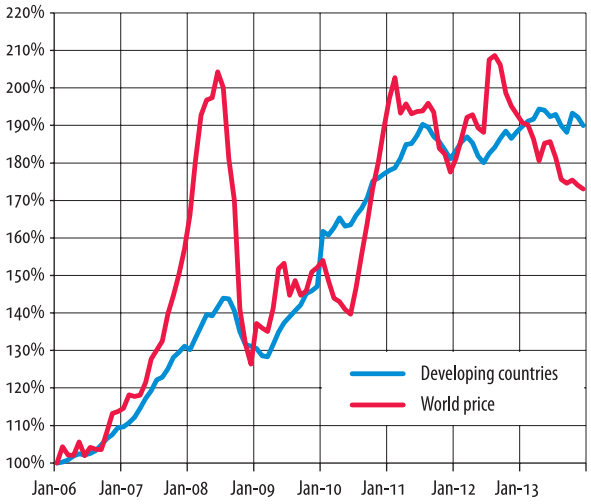


Figure 1 compares the movement in the World Bank's food price index for internationally traded foods with movements in a weighted average of domestic food CPIs taken from the FAO website. This graph shows a striking divergence between the two series in periods such as 2006-8, and 2010-11, when world prices increased rapidly. Policy makers in developing countries insulated their domestic markets from the volatility in world markets, allowing only small increases in domestic prices over this period. Another striking feature of this graph is the fact that the longer-term trends in the two series are almost identical. The movement in the two series over a longer period is almost identical.

Figure 2. Price insulation for rice

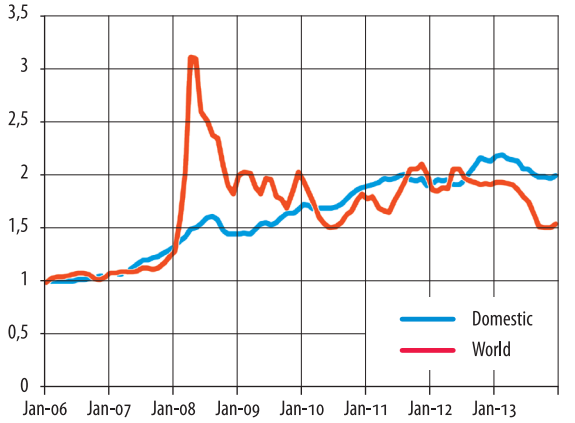
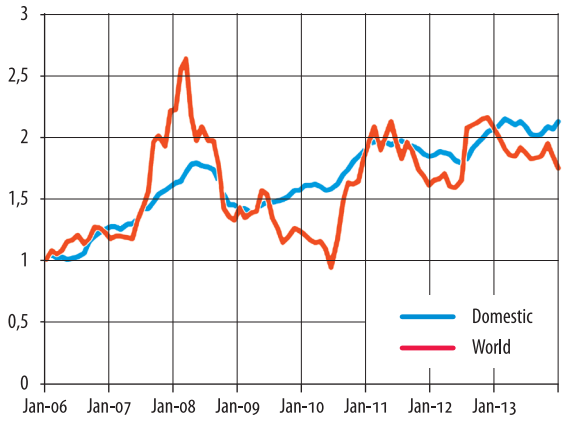


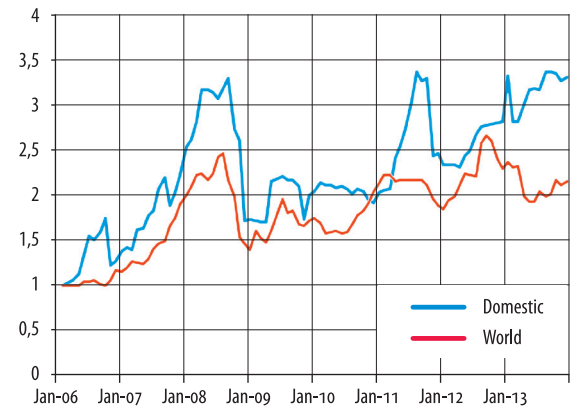
Figure 3. Price insulation for Wheat



If we look at the prices of individual staple foods over the same period, we see some substantial differences in behavior. In Figure 2, we see that policy makers very strongly resisted passing short term changes in world rice prices into domestic markets. Similarly, in Figure 3, we see strong insulation of domestic prices from short run movements in world wheat prices. By contrast, in Figure 4, we see much less insulation of domestic markets for soybeans from movements in world prices. In all cases, however, we see transmission of the longer term change in prices into the domestic market. Because these

price series are indexes, this does not mean that there is no longer term protection or taxation of agriculture. Rather, what these series show is that protection returns to its longer term level.

Figure 4. Price insulation for soybeans



When we turn in Figure 4 to soybeans, an important food product, but one that is not a major direct expenditure item for the poor, we see quite a different pattern of behavior. Policy makers appear to be much less concerned about reducing the volatility of domestic prices for soybeans than for they are for core staples such as rice and wheat.

An important question is why policy makers might respond like this? The inverse relationship between food price levels and protection rates has been widely observed (Johnson 1973), but the tendency for protection rates to return to their long run level appears not to have received the same degree of attention. One possible explanation for this behavior is provided by recent work on the implications of changes in food prices for poverty—especially in the context of the price surges that can have such dramatic effects on the poor, who spend a large fraction of their incomes on food. This body of work (eg Headey 2014; Ivanic and Martin 2014; Jacoby 2014) shows that unanticipated food price increases can have serious, adverse impacts for poverty, while sustained increases in prices might be helpful once output has a chance to adjust and higher food prices are passed through into wage rates.

One parsimonious way of capturing behavior of this type is to use an Error Correction model which, in this case, supposes that governments are averse to sharp changes in domestic prices, but have a longer term goal of maintaining a stable relationship between domestic and international prices. This longer-term relationship might be of the type proposed by Grossman and Helpman (1994), in which policy makers seek to maximize their political support taking into account the economic costs of providing that support—an approach that Grossman and Helpman show leads to a stable relationship between domestic and world prices. Ivanic and Martin (2014) show that this model can represent policy behavior very well. They also show that—as it is used—it is ineffective in stabilizing domestic prices. While domestic prices are stabilized relative to world prices, this intervention destabilizes world prices one for one, resulting in no net stabilization of domestic prices.

Price insulation of the type that we have observed is widely justified as attempting to protect the poor from the adverse impacts of rapid increases in food prices. Not only policy makers offer this argument. Many observers, noting that major economies such as China and India managed to restrain price food price increases in 2006-8 to very low levels, conclude that estimates of the adverse impacts of higher food prices must have been seriously overstated. Given that, it seems important to assess whether price insulation policies were effective in reducing the poverty impacts of higher prices in that period.

Anderson, Ivanic and Martin (2014) examined the impacts of this insulation taking into account not only the direct impacts of insulation on each country's domestic price, but the cumulative impact of all of the price insulation on the world price. When only the direct impacts of intervention were considered, interven-

tion appeared to reduce the adverse impacts on the poor considerably, with 80 million fewer people entering poverty than would otherwise have been the case. However, once the impacts of intervention on world prices were taken into account, price insulation failed to reduce the adverse impact of the price shock on poverty. The insulation itself increased world prices—for simplicity, think of insulation achieved by restricting exports—enough to completely eliminate its otherwise favorable impact on poverty. The collective action problem in this case is strongly analogous to the case where people stand up in a stadium to get a better view of the game. While each person needs to act, the actions of the group as a whole are ineffective in improving the view.

Conclusions

This brief survey or recent work on food price volatility, price insulation and poverty began by looking at countries' policy responses to world price changes. This revealed that countries have tended to insulate strongly against shocks to world prices. However, within a couple of years, they had fully passed the more sustained increases in prices into domestic markets. Further analysis led to the conclusion that this is part of a systematic pattern of response, under which policy makers resist sharp changes in prices, which causes the rate of protection to deviate from its steady-state political equilibrium. Policy makers subsequently reduce this disequilibrium by raising domestic prices to return them closer to their desired rates of protection.

A key question is whether the short run price insulation that is such a key feature of markets for staple foods actually achieves the reduction in poverty to which it is, at least partly, directed. If policy makers consider only the direct impacts of their actions between 2006 and 2008, they would have grounds for congratulation. Reducing the jump in prices appears to have reduced poverty by some 80 million people. However, it is important to keep in mind the collective-action problem that is inherent in using price insulating policies. The higher prices that resulted from countries insulating their markets completely offset the apparent gains, rendering this approach to policy completely ineffective at the global level.

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