



International agreements to manage food price volatility[☆]

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ARTICLE INFO

Article history:

Received 15 June 2012

Accepted 11 October 2012

Keywords:

Volatility
International agreement
Food security stock
Biofuel

ABSTRACT

The 2007–08 food price surge has prompted renewed concerns in relation to food security. I ask whether the International Commodity Agreements of the second half of the twentieth century may have lessons for new international agreements on food security. The answer is largely negative. It is important to avoid politicization of the discussions and to recognize differences across food commodities. I second the [De Gorter and Just \(2010\)](#) proposal for conditioning biofuel mandates on grain prices but also see a role for rice food security stocks as an expedient until export controls become subject to WTO disciplines.

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1. Introduction

Grains are the principal basic food products which enter international trade. Trade in grains is dominated by wheat, maize (corn) and rice. Soybeans, which are an oil seed, are also very important both as a source of vegetable oil and as an animal feedstock. These four products are the most important items in considering food security at the global level. Although of greater value, meat is less important than grains in world trade and in many countries can be considered a derivative product—meat availability and prices will depend on the availability and prices of the corn and soybean feedstocks. Other grains, such as sorghum, are important in particular countries but play a more minor role in world food trade.

Debates about food security relate in part to the availability of food and in part to the variability, or volatility, of food prices. In this paper, I focus on food price volatility but do so in the context of food security issues in poor developing countries. Food price volatility and food security concerns are related since tight food markets will exhibit high prices. Where markets function well, food will be available even in shortage periods but possibly at high or very high prices. Where markets function poorly, it may be difficult to obtain adequate food at any price. In summary, with well-functioning food markets, the food security policy tends to manifest itself in terms of coping with occasional periods of high prices (price “spikes”), and in particular ensuring that the poor have access to adequate food at the prevailing market prices, while where markets function

poorly, countries may face a much more generalized problem of access.

Food security issues take on different forms depending on the food balance of the country in question, its stage of development and the identity of the subsistence crop (if any). In terms of food balance, we can distinguish three groups of countries: (i) countries which regularly import much of their food; (ii) countries which are generally self-sufficient (or even occasional exporters) but which need to import in years following a poor harvest; and (iii) food exporters. The level of the country’s development is important because the food budget share declines as income rises, reflecting Engel’s Law. Food shortages therefore hit harder in poorer countries. Global food security policy should therefore be orientated towards the poorest countries and the poorest groups within each country. The identity of the subsistence commodity is important because grains markets differ in their efficiency, the world rice market being the least efficient of the four markets considered in this paper.¹ Different policies for different food commodities may be appropriate according to the differing degrees of market efficiency.

The food security debate has been reinvigorated by the 2007–08 food price spike and the important but less severe rise in prices over 2010–11. These events have encouraged the view that high and volatile food prices are now a permanent feature of the world economy and that global food security policy needs to urgently adapt to this new environment. At the same time, the frequency and rapidity with which a number of important food exporting countries chose to prohibit or limit exports has resulted in

[☆] I am grateful to Simone Pfuderer, the Editor, and two anonymous referees for comments on earlier drafts of this paper. All errors are my responsibility.

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¹ In [Gilbert \(2011b\)](#), I looked at grains pass-through from terminal market prices to domestic prices. In the case of rice, the widely quoted Bangkok spot price follows rather than leads domestic prices (pass-back, not pass-through) while movements in the Chicago rough rice price have little relationship with movements of rice prices in rice-consuming developing countries.

renewed concerns over access. These perceptions were forcefully pushed by the 2011 French presidency of the G20.

Governments have worked together in the commodities arena over what is now an eighty year period.² This cooperation was given effect in so-called International Commodity Agreements (ICAs) for six major commodities which functioned over the second half of the twentieth century. It is natural, therefore, that the ICA experience should be reanalyzed in relation to current food security concerns and the possibility of new international arrangements to ensure food security. In Sections 2 and 3 of this paper, I review the ICA experience and conclude that it has relatively little relevance to the current food price volatility and food security debates. The twentieth century agreements were designed to address problems of low, not high, prices and their agenda was primarily concerned with raising prices, not reducing volatility. If there are lessons from the ICA movement, they are to work on a commodity-by-commodity basis rather than to attempt a grand design, and to avoid excessive politicization.

How might the international community work together to guarantee access to essential food products and to ensure that the prices of these products are not excessively volatile? In answering this question, we should ensure that any new agreements are founded on an understanding of the specific problems that food insecure countries are currently facing, and the reasons for these problems. Secondly, proposed arrangements must be acceptable to both importing and exporting countries. In particular, they must be “incentive compatible” to avoid countries renegeing on their commitments in food crises.

The causes of the 2007–08 price spike remain controversial—see Abbott et al. (2008), Baffes and Haniotis (2010), Gilbert (2010) and Wright (2011a, 2011b). A number of commentators have cited the diversion of corn into ethanol as a major demand, the price increases from which generalize across into wheat and soybeans through land substitution—see Mitchell (2008). The attractiveness of using food crops as biofuels feedstocks is dependent on the level of crude oil prices and this is likely to have increased the degree of integration of the grain and energy markets allowing oil price volatility to be imported into grains markets. This raises public policy issues because biofuels usage also depends on governmental support through mandates and subsidies. Food price volatility and food security policy therefore cannot be analyzed in isolation from energy market considerations. I discuss some of these issues in Section 6.

Many of the most acute access problems that emerged in 2008 related to the rice markets, despite the fact that rises in domestic prices of rice in developing countries were in line with those of other grains. Rice is not a biofuel feedstock and there is little substitution between rice and other grains either in production or consumption. At the global level, there was no shortage of rice in 2007–08—see Dawe and Slayton (2010, 2011). Nevertheless, the government of a number of important rice-exporting countries imposed export bans, or threatened to do so, in order to guarantee domestic availability. As a consequence, rice-importing developing countries, finding it difficult to obtain adequate supplies at reasonable prices, were forced to pay extraordinarily high prices on the residual world market. This experience has led countries to retreat from reliance on international trade as a means of ensuring food security – in rice, trade works well except when it is most needed – see Christiaensen (2009) and Dawe and Slayton (2010, 2011). By contrast, the wheat, maize and soybeans markets functioned efficiently throughout the high price period and importers found no difficulty in obtaining supplies, albeit at a

high price. Policy for rice may therefore need to be different to that for the other three grains.

There are essentially four mechanisms at the disposal of governments in pursuing the objectives of guaranteed access and reduced price volatility:

- (a) Multilateral price agreements. The International Wheat Agreements (IWAs) conformed to this model. I argue (Section 3) that agreements of this type will tend to break down in periods of crisis because they fail the incentive compatibility requirement.
- (b) Tighter export control disciplines. Many of the problems in the rice market in 2007–08, and also in the wheat market in 2010, arose from export restrictions imposed by governments of grain-exporting countries. The WTO is the natural forum within which to address these concerns. I argue (Section 4) that even limited moves to formalize reporting will be of value in bringing export restrictions within world trade law comparably to what has already been achieved with import restrictions.
- (c) Arrangements to increase stock availability. Food security stockpiles have a long history and play an important role in national food security policy, particularly for poor landlocked countries. I argue (Section 5) that it is less clear that private sector storage is inadequate at the global level, and it is doubtful that low stocks were a major cause of the 2007–08 price spike. I suggest that there is merit in considering national or international rice stockpiles, but little case for stockpiling initiatives in wheat, maize or soybeans.
- (d) Measures to contain or limit demand for non-food purposes. If it is correct that it is the use of food commodities and biofuel feedstocks that has caused high and volatile food prices over the recent past, policy should tackle this problem at its root. In Section 6, I argue that, on this premise, variable biofuel mandates can play an important role in reducing food price volatility and thereby increasing food security.

Section 7 of the paper contains conclusions.

2. The international commodity agreement experience³

The term “international commodity agreement” (henceforth ICA) refers to a treaty-agreement between governments of both producing and consuming countries to regulate the terms of international trade in a specified commodity. There have been six ICAs which have had “economic” (i.e. intervention) clauses: the International Cocoa Agreements (ICAs), the International Coffee Agreements (ICAs), the International Natural Rubber Agreements (INRAs), the International Sugar Agreements (ISAs), the International Tin Agreements (ITAs) and the International Wheat Agreements (IWAs).⁴ I discuss the first five of these agreements in this section while the IWAs, which are the agreements which are most directly relevant to the food security debate, are discussed in Section 3.

At the end of the Second World War, there was a widespread expectation across the range of primary markets that the excess production and low prices which had characterized the 1930s might return. The immediate post-war discussion of commodity

³ Sections 2–4 draw on Gilbert (2011a, 2011c, 2011d).

⁴ There is also a large number of “study group” style agreements whose functions are information collection and dissemination, market promotion and, in certain cases, the fostering of research and development. With the ending of international commodity control, where they have survived, the previously active agreements have taken on this form.

² The first International Wheat Agreement was signed in 1933.

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