

Comment on
“The International Financial Crisis: Macroeconomic Linkages to Agriculture”
by Matthew D. Shane and William M. Liefert

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Shane and Liefert analyze the impact of recent international financial crises on agriculture, in particular on U.S. agricultural trade. This comment relates Shane and Liefert’s analysis to some recent data. The immediacy of the crises that they study limits the data available. In particular, this comment reports on data only on the current value of U.S. exports and imports by country and by industry. (See the note on data at the end of this comment.)

These crises began in Thailand in the summer of 1997, spread quickly to other countries in East Asia like Indonesia and South Korea, and eventually spread to Russia and Brazil. Figure 1 traces U.S. agricultural trade with the five crisis countries studied by Shane and Liefert over the past decade. As they note, the crisis led to a sharp contraction in agricultural exports to these countries by the United States during 1997 and 1998, which is projected to continue into 1999. At the same time, agricultural imports have remained more or less constant, causing the U.S. agricultural trade surplus with these countries to fall sharply.

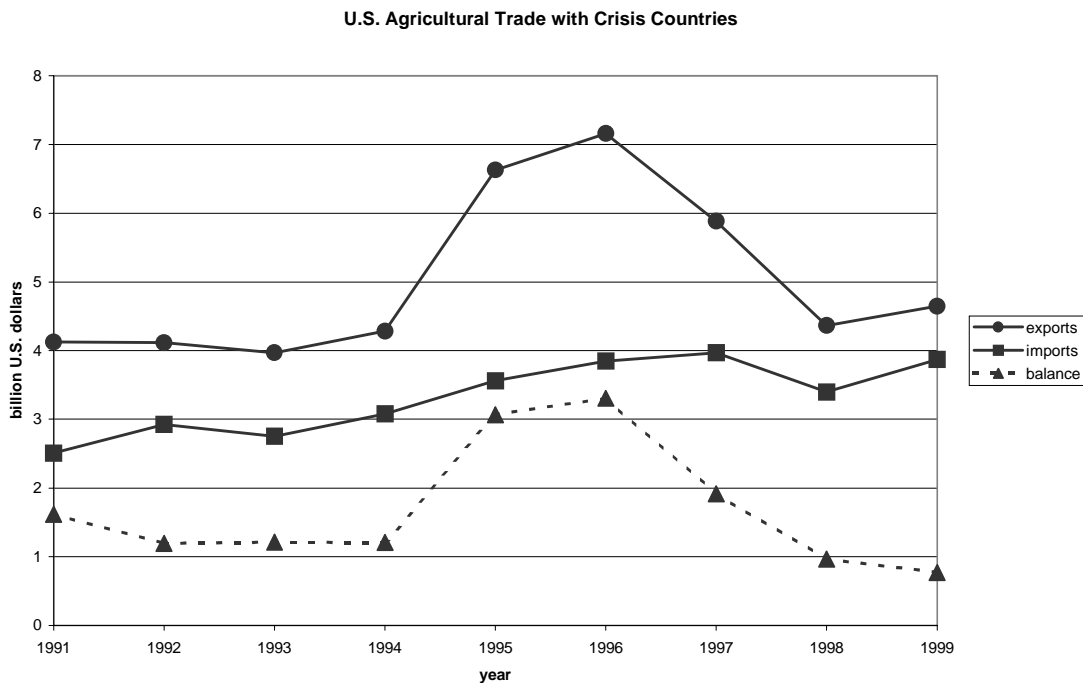


Figure 1

Shane and Liefert’s story for the sharp drop in U.S agricultural exports to the crisis countries goes as follows: The depreciation in the exchange rate and decline in consumer

income in each of the crisis countries cause consumption of agricultural goods in these countries to drop. There are numerous factors that affect production of agricultural goods in these countries, including currency depreciation and increases in interest rates. Although the overall impact of all factors on supply is ambiguous, Shane and Leifert conclude that for most agricultural producers in most crisis countries there was an improvement in the terms of trade, which stimulated production, at least with a lag. The data in figure 1 support this story. Notice that the value of agricultural exports by crisis countries to the United States actually fell in 1998, a year in which high interest rates had a disruptive effect on agricultural production in the crisis countries.

So far, so good. It is when Shane and Leifert turn to the linkage of the crisis to agricultural production in no-crisis countries that they are on shakier grounds. Specifically, they claim that the fall in agricultural demand in crisis countries reduced world agricultural prices. Because demands for agricultural goods have low price elasticities, this did not cause demand in the rest of the world to rise much. Consequently, the value of demand in the rest of the world fell.

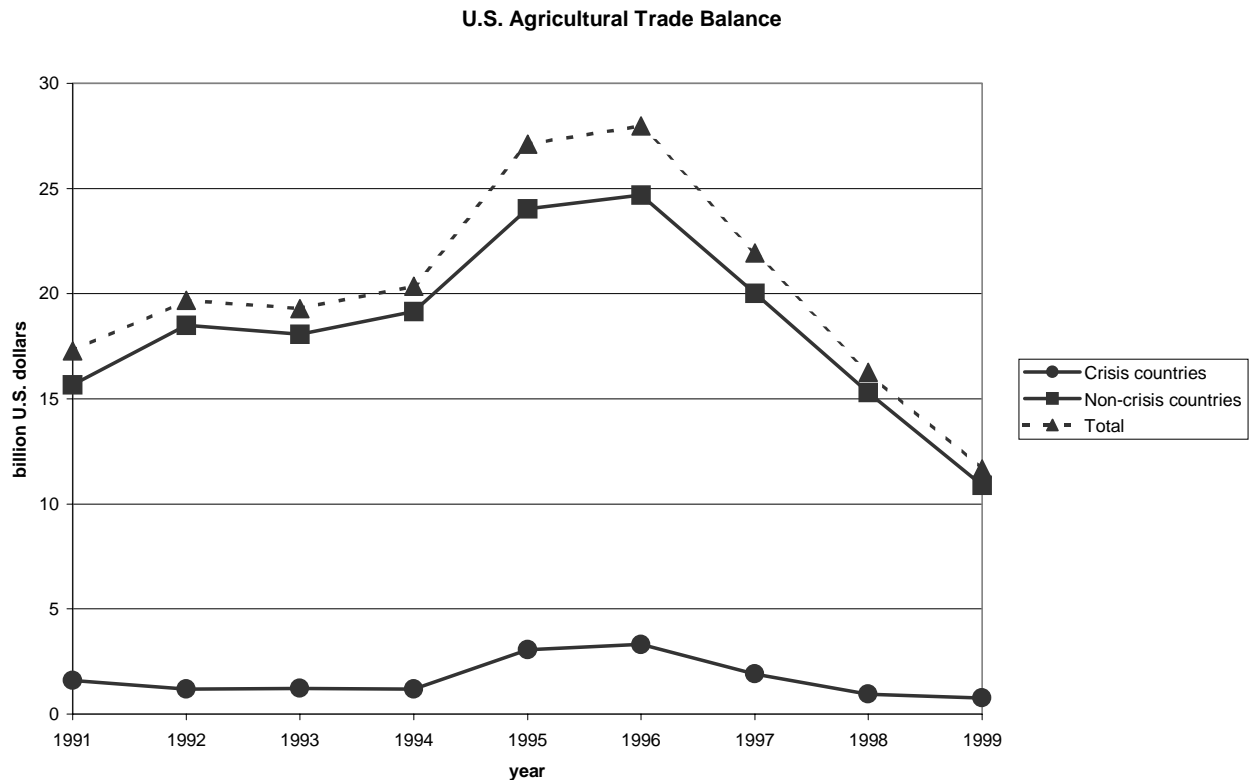


Figure 2

The data presented in figure 2 cast some doubt on this story. Notice that the fall in the U.S. agricultural trade balance with the crisis countries of 2.3 billion USD over the period 1996-1998 (from 3.3 to 1.0 billion USD) is dwarfed by the fall in the U.S. agricultural trade balance with non-crisis countries of 11.7 billion USD over the same period (from 28.0 to 16.3 billion USD). The percentage fall in the trade balance with the crisis countries is far sharper than that with the rest of the world, but the absolute magnitude is

far smaller simply because the crisis countries account for only a small fraction – about 10 percent – of U.S. trade. Clearly, important things were happening in agricultural trade in the rest of the world, things that potentially dwarfed what was happening in the crisis countries. It may be that in restricting their attention to the five crisis countries – Thailand, Indonesia, South Korea, Russia, and Brazil – Shane and Liefert have narrowed their focus too much. Many other countries – notably Japan – saw their currencies devalue relative to the U.S. dollar and their economies stagnate over the period 1997-1999.

This is not to say that Shane and Liefert are wrong. It does suggest, however, that to make their point convincingly they need two things: more data and a model. More data is necessary to pin down exactly how much of the changes in production, consumption, and trade in agricultural goods is accounted for by changes in prices and how much is accounted for by changes in quantities. To put all of this data together, and at the end of the day say something like, “The fall in income of X percent in the crisis countries can account of Y percent of the fall in the U.S. agricultural trade balance,” we need a model. Even a simple model would do. We could take the causes of the crisis as exogenous and use a static model in which we simply exogenously lower income in crisis countries. It is essential, however, that we have a general equilibrium model. It is general equilibrium effects that are crucial to Shane and Liefert’s story: The fall in incomes in crisis countries lead to changes in prices, not just agricultural prices, these changes in prices in turn effect production and consumption throughout the world, not just in the crisis countries. Shane and Liefert have identified many of the essential linkages, but there is still work to be done.

The data presented in figure 3 suggest another direction that future research should go. These data indicate that the crisis countries are far from being a homogeneous group: South Korea and Russia are major importers of agricultural goods from the United States, but do not export much. Brazil and Indonesia, on the other hand, are major exporters of agricultural goods to the United States, but do not import much. Thailand does not have much agricultural trade with the United States at all. It is very likely that the impact of the crisis on agriculture in these countries has been very different depending on whether they are net importers or net exporters of agricultural goods. Notice in particular that the decline in the U.S. agricultural trade balance with South Korea accounts for more than two thirds of the decline in the agricultural trade balance with all of the crisis countries (1.6 billion USD of a total of 2.3 billion USD).

Looking at data for trade by industry with individual countries suggests another set of elements that may be crucial for the analysis of the effects of the crisis on agricultural trade: The goods that different countries trade are different. Russia, for example is a major importer of agricultural consumer goods like meat (SITC 012) and tobacco (122). South Korea, on the other hand, imports a lot of agricultural goods like oil seeds (222) and cotton fibers (263), which are intermediate inputs for products that may then be exported, as well as importing goods like maize (044) and wheat (041) to satisfy consumer demand. Demand for intermediate inputs depend on demand for the final products that they are used to produce. It is very likely that the impact of the crisis on agriculture in these countries has been very different depending on the sorts of agricultural goods that they import. Once again, it is worth stressing the general equilibrium nature of the linkages involved. The effects of a financial crisis on the

demand for an intermediate good depends crucially on whether the final good being produced is destined for the domestic market or for export. In the first case, because of the decline in domestic incomes, a crisis is likely to dampen demand. In the second, because of the devaluation of the domestic currency, it is likely to stimulate demand

Shane and Leifert have laid out a blueprint for some exciting research. When the necessary data become available, I hope that they, or other researchers, follow through and come up with the model.

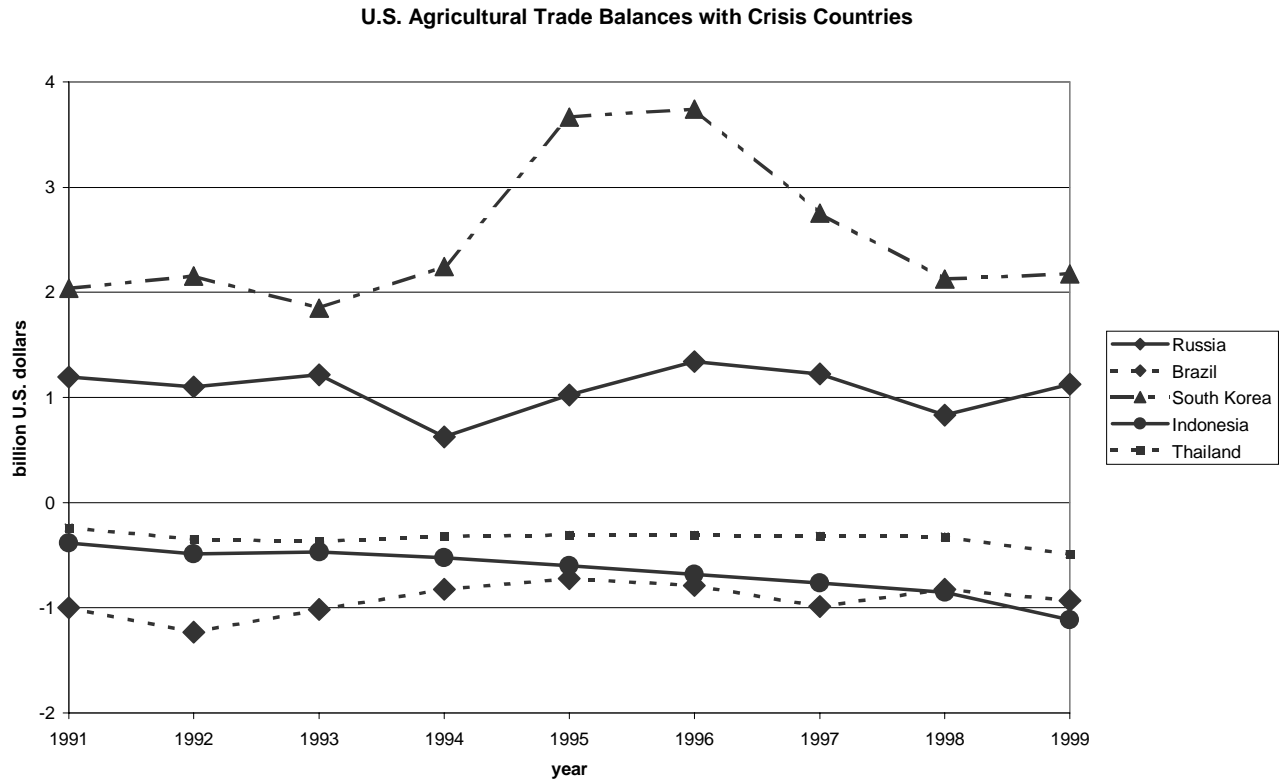


Figure 3

Note on data: The data reported in this comment have been obtained from U.S. Department of Commerce International Trade Administration's website (www.ita.doc.gov). They are measured in billions of current U.S. dollars. Data for 1999 in figures 1 and 2 are projections based on data for the first ten months of the year. Data for 1999 in figure 3 are based on regressions of yearly agricultural trade by county on total U.S. agricultural trade and U.S. trade with the individual country.