APAC Agricultural Policy Analysis Center
The University of Tennessee

PolicyPennings by Dr. Daryll E. Ray

Exchange rates and corn exports

As we investigated trends in major-crop exports for recent columns, the impact of exchange rates on export volumes naturally became of interest. This week we focus on the exchange rate issue specifically as it relates to corn exports.

Part of the idea behind this is that as the US currency becomes weaker , relative to our trading partners, the price of US farm commodities becomes more affordable to our international customers. Certainly one often hears trade analysts use the change in the US exchange rate as an explanation as to why the price of farm commodities went up or down, presumably in anticipation of exchange-rate-caused changes in exports, even on a given day .

Figure 1 shows the US corn trade weighted exchange rate, 2005=100, (upper line) and US corn exports, million metric tons, (lower line). For the period between 1970 and 1991, the two lines have the appearance of being a mirror image of each other . This is what we would expect to see if corn exports are affected by changes in the value of the US dollar .

After 1991, the impact of the corn trade weighted exchange rate for US corn importers on US corn exports is not as evident on the graph. We conducted a series of basic statistical tests that confirmed that the exchange rate was strongly and significantly correlated with corn exports during the 1970-1991 period while during the 1992-2009 period the two are not statistically correlated in any significant way.

What can be said about this? Well, frankly there is probably more that can't be said with complete confidence than can be said.

One thing we can say is that those researchers and analysts in the 1970s and 1980s who indentified and trumpeted the importance of exchange rates on agricultural exports (corn specifically in this case) appear to have been on firm ground.

It is no wonder that the conventional wisdom during this time was for a bright future for US exports. In addition to experiencing exchange rates that favored US exports, a contextual backdrop was reinforced that encouraged policy makers to shift to a more export oriented set of agricultural policies beginning with the 1985 Farm Bill.

Another thing we can say is that the strength of the association between exchange rates and agricultural (specifically corn) export volumes during the 70s and 80s, put exchange rate changes high on the list of considerations analysts used to analyze changes in exports and prices.

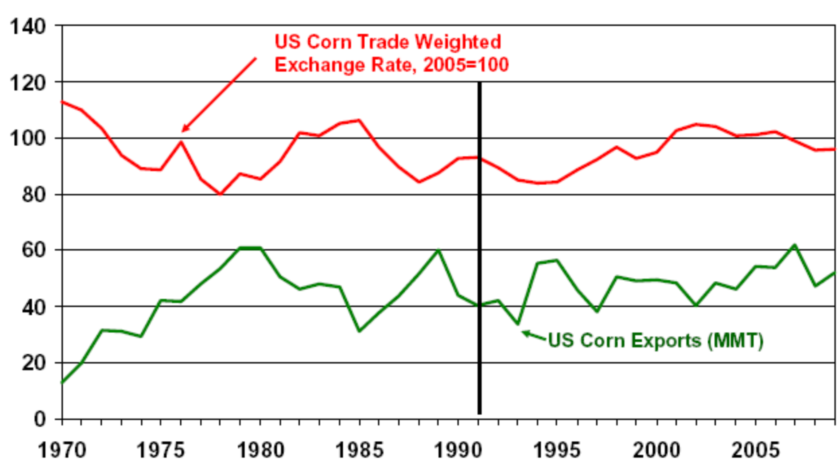

Figure 1. US corn trade weighted exchange rate for US corn importers, 2005=100, and US corn exports (million metric tons), 1970-2009. Data source: USDA.

But are exchange rates as much of a driving force as they were a couple decades ago? The data suggest that they may not be (again focusing on corn in this case).

Full-fledged structural models of the individual crop sectors estimated to allow separate coefficient estimates on the exchange rate variable for the 1970s and 1980s period and the 1992 to present period are needed to definitively test if there has been a statistically verifiable change in the influence of exchange rates on export volumes. The freshly estimated price elasticity of the commodity's export demand would be of extreme interest as well.

If empirical investigations suggest that indeed trade weighted exchange rates, while of great importance in the 70s and 80s, are of much less or of no significant importance in the last two decades in determining export volumes, then the question becomes: why the change? That is the $64 thousand dollar question-maybe in this day and age it is the $64 billion dollar question.

Daryll E. Ray holds the Blasingame Chair of Excellence in Agricultural Policy, Institute of Agriculture, University of Tennessee, and is the Director of UT's Agricultural Policy Analysis Center (APAC). (865) 974-7407; Fax: (865) 974-7298; dray@utk.edu; http://www.agpolicy.org. Daryll Ray's column is written with the research and assistance of Harwood D. Schaffer, Research Associate with APAC.