

Policy Pennings by Daryll E. Ray & Harwood D. Schaffer

Apples: Crop stocks available as normal market supplies; Oranges: Crop stocks in a reserve

In an examination of the causes of the 2006-2008 spike in agricultural prices that resulted in a food crisis for over 1 billion people, one of the issues that needs to be looked at is the role of crop stock levels. It is particularly important to look at this issue because, as Derek Headey and Shenggen Fan indicate in their IFPRI Monograph, "Reflections on the Global Food Crisis," "declining stocks [also] preceded the 1974 food crisis."

In the end they dismiss declining ending stocks (quantity left over from one twelve-month crop marketing year and brought into the next crop marketing year) as a cause of the most recent crisis. As they write, "Are stock declines, then, a powerful story when it comes to explaining the price surge? Stock declines played only an indirect role for rice, biofuel demand seems to account quite well for maize stock declines, and trade and production shocks seem to explain some of the decline in wheat stocks. These factors suggest that declining stocks were largely caused by other factors rather than acting as a primary cause."

They certainly are correct in their assertion that free market stock levels—that is, crop stocks that are readily available to the market—are the result of the interplay of various supply and demand factors. But "stocks" can be viewed as both as market supplies and as reserves. To say that market available stocks—measured as the difference between quantities available and quantities used—are affected by factors that change the quantities available and factors that change the quantities used is to say nothing at all. But this tautological aspect of freely available stocks should not be confused with the existence or lack of existence of "reserve stocks"—that is, the presence of physical reserves, either global or in the hands of residual suppliers, that could calm market jitters and dampen extreme price increases like those experienced in the early 1970s and in recent years.

When it comes to grains and oilseeds, given the low price elasticity of supply (the amount produced remains relatively stable over a wide range of prices) and the low price elasticity of demand (the amount consumed remains relatively stable over a wide range of prices), the market needs a source of resilience in order to keep from experiencing an excessive level of volatility that harms producers and consumers alike.

Historically, government-funded reserves have been that source of resilience.

In their study, Headey and Fan discuss stock levels and accept the 1983 FAO (United Nations Food and Agricultural Organization) acknowledgment of the consensus "that countries need to keep stocks of around 17-18 percent of total consumption or use levels." While there is merit to the recommendation, it addresses the issue with a very broad brush and thereby misses two important points.

First, even a cursory examination of the relevant data suggests that the level of stocks that the market is comfortable with varies widely from one commodity to another. In the US, for instance soybean year-ending stocks in the range of 5 to 9 percent of utilization are quite common and result in few market problems. On the other hand, when corn stocks get that low the prices begin to rise sharply. Corn prices exhibit a reasonable amount of variability when the stocks-to-use percentage is in the teens and drop quickly when they move into the 20s. US wheat stock-to-use levels in the 20s and 30s are quite common.

Second, in terms of talking about recommended stock levels, one needs to make a distinction between the stock levels that are always available to the market and are needed for the ongoing smooth operation of commercial markets and reserve stock levels that are needed to meet extraordinary shocks on either the supply or demand side. In the previous paragraph, the levels we talked about are those that allow the market to deal with the normal variations in supply and demand.

Those unfamiliar with the data would do well to review the role of reserve stocks in smoothing commercial market operations in 1983 and 1988, when US reserve programs were in effect. Had even a moderate-size reserve been in place in 2006, livestock and ethanol producers, other demanders of grains, and participants in international trade would have faced a less daunting reality, and billions of dollars that were lost or foregone from the disrupted economic activity could have been avoided.

The shocks that we experienced in 1972-1974

Cont. on p. 2

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Cont. from p. 1

and 2006-2008 are beyond what can be dealt with by the market without experiencing price spikes and export restrictions of one sort or another. Government-funded reserve stocks are needed to deal with events like those. Cost is always mentioned, but the real question is compared to what. Just like when "we" complain about the recent cost of government stimulus expenditures, we do not compare it to the "cost" of experiencing a full-fledged depression.

An important challenge is the determination of the level of reserves that is needed. The answer to that question is not unlike the one we have seen small rural towns wrestle with as they try to determine how large the municipal storm tiles should be. Each time the question is raised, the city engineer asks, "do we want to cover a 10-year, 25-year, or 100-year weather event?"

The answer to the question of the size of a reserve is similar. It depends upon the severity of

the event one is trying to protect against. The greater the severity one is protecting against the larger the reserve (or storm drain tile). In both cases it is a political/economic question: how much can you reasonably afford and what is the cost of not providing the protection. No two countries or cities are going to come up with the same answer. It depends upon the interaction of their risk tolerance and financial resources. The only thing that is clear is that doing nothing can be very expensive and costly in lives if something happens.

In 1972-1974 and 2006-2008 something happened. And they called it a "food crisis."

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). Harwood D. Schaffer is a Research Assistant Professor at APAC. (865) 974-7407; Fax: (865) 974-7298; dray@utk.edu; <http://www.agpolicy.org>.