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COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

Strong Dollar, Weak Dollar What Difference Does It Make to South Dakota Agriculture?

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From time to time claims and editorials advocating a strong (or weak) dollar are seen. Depending on one's point of view, either a strong (or weak) dollar is good for the country, international trade, agriculture, or employment. Often, claims are based on emotions or political philosophy. Equally often, the arguments presented contain poor logic or inconsistent data.

The intention of this article is to show, by example, how the strength of the U.S. dollar impacts U.S. exports and how it can impact the price of U.S. farm products. This article should be understandable to non-economists because economic jargon is avoided. Yet, it should be thorough enough to provide an accurate description on how the dollar's strength (or weakness) impacts U.S. exports. Names are used for importers and exporters to help readers follow the steps in international trade and aid in the understanding of the process. They are not used to enhance or advertise any business organization.

As a starting point, let's look at trade with Japan. Japan is chosen because it is a major trading partner and because the mathematics for calculating the exchange rates between the yen and the dollar is easy -- one dollar being equal to about 100 yen.¹ Starting with an exchange rate of 100 yen to \$1, assume a Japanese importer, Mr. Sato, wants to buy U.S. soybeans. He telephones a U.S. exporter, let's assume Cargill, and asks the price of soybeans. The price quoted is \$7 per bushel, FOB the Gulf. (FOB means the price quote is for the beans aboard ship and that the buyer will pay the freight to Japan.) With the price of a U.S. dollar at 100 yen, Mr. Sato will take 700 yen to his international banker and buy \$7 to pay for the bushel of soybeans. To save the time of mailing a check to Cargill, the bank in Japan will wire the \$7 to Cargill's international banker in

the U.S. Cargill will put a bushel of soybeans on a boat headed to Japan.² Cargill will use \$6.75 of the \$7 to pay the terminal elevator in Minneapolis from which it bought the beans. The remaining 25 cents will be used to pay the barge company which delivered the beans to the Gulf, pay other expenses, and keep some for profit.

The terminal elevator will use \$6.15 of the \$6.75 to pay the country elevator from which it bought the soybeans. The rest will be used to pay the railroad for hauling the beans to Minneapolis, pay other costs, and keep some for profit. The country elevator will pay the farmer \$6.00 for the soybeans and use the rest to pay its operating expenses and keep a little for profit.

If the dollar becomes weaker, it will take fewer yen to buy a dollar. Suppose, for example, the exchange rate declines to 90 yen per dollar. That means Mr. Sato needs only 630 yen to buy the \$7 needed to buy a bushel of soybeans. His bank will wire the \$7 to Cargill who puts a bushel of beans on the ship. From here on back to the farmer, nothing changes. Cargill pays \$6.75 to the terminal elevator, which pays \$6.15 to the country elevator, which pays \$6.00 to the farmer. From this example, we see that the farmer, country elevator, terminal elevator, and exporter all get the same number of dollars, whether the dollar is worth 90 yen or 100 yen.

¹ The exchange rate on 8 July 1997 was actually about 112.8 yen per dollar.

² International trade in farm commodities actually is conducted in metric tons. A single bushel is used here to reduce confusion for the reader.

The story does not end here, however. With the dollar worth 90 yen, Mr. Sato can now import 1.11 bushels of soybeans for 700 yen. He can lower the prices of his products in Japan and sell more there. This will increase the demand for soybeans from the U.S. and increase the price in the U.S. in order to ration the existing supply. How much the price actually changes will depend on how much more Mr. Sato actually buys and how this will impact U.S. stocks and expected trade. The main point is that the weaker dollar likely will increase our exports which likely will increase our prices.

Now, let's assume that the dollar is stronger. Suppose it now takes 110 yen to buy a dollar. Mr. Sato now must pay 770 yen to buy \$7, which he does. The \$700 is wired to Cargill's bank in the U.S. Cargill puts the bushel of soybeans on the boat and pays the terminal elevator \$6.75, which pays the country elevator \$6.15, which pays the farmer \$6 for the bushel of soybeans. Again, initially, it looks like nothing has really changed, except for Mr. Sato. However, with the price of a dollar at 110 yen, Mr. Sato will have to increase the price of his soybean products in Japan. He likely will find that the amount of his products he can sell at higher prices will be less. Thus, he will import less, Cargill will be less aggressive in buying soybeans and prices will fall in the U.S. How much the price will decline will depend, in part, on how much Mr. Sato cuts his purchases. The main point is that the stronger dollar likely will decrease our exports and lower exports likely will mean lower prices in the U.S.

The above description is only a first approximation of how the system works. Expectations also can be highly influential. That can be shown by adding some inflation/deflation psychology to the situation.

Suppose that recently the price of a dollar in Japan was 90 yen and now is 100 yen. If Mr. Sato anticipates additional strengthening of the dollar, he may decide to increase his imports to beat additional exchange rate increases. Thus, when the value of the dollar is increasing, it initially may stimulate export activity, even though a stronger dollar eventually will reduce exports. This situation cannot last

forever, however. Eventually, the price will get too high for Mr. Sato to be able to turn a profit and he will slow or stop buying soybeans from the U.S.

The opposite is true when the dollar is growing weaker. If the dollar is becoming weaker in Japan, Mr. Sato may decide to delay placing more orders for soybeans as the price of the dollar falls, consuming his inventory as long as possible. So, we have a situation where the psychological impact of declining exchange rates may have the opposite impact of low exchange rates. But, again, this cannot last forever. Eventually, the value of the dollar will stop falling, and Mr. Sato will run out of soybeans and have to reorder.

So, we can conclude that whether the strength of the dollar is strong or weak, the amount the farmer gets for his soybeans is not directly and immediately affected by the exchange rate. But a change in exchange rates likely will stimulate or deter sales and drive prices up or down. Thus, it is the change in volume of trade, caused by the strength, or change in strength of the dollar, not the strength of the dollar itself, that impacts price in the U.S.

In the above example, price of the relationships among the exporters, terminals and country elevators may not be totally realistic. However, they provide a basic description of how international trade works. Even then, only one side, the exporting of soybeans to one country, has been described. As more countries are brought into the picture, along with their exchange rates, the picture gets more complicated.

Just to tease your brain, suppose that a weak dollar stimulates large soybean exports, and this drives the U.S. price of soybeans up. Now, bring Brazil into the picture. Will the high price of soybeans in the U.S. stimulate more soybean production in Brazil?³

³Answer: It depends on the exchange rates between the Brazilian currency (the real) and the U.S. dollar, and the real and the yen as well as the prices of soybeans in both producing countries.

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