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U.S. Farm Trade Complements World Trade

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Unlike many other developed countries, the United States enjoys a competitive advantage in world agricultural trade. Abundant natural resources and modern technology have helped make the United States a net exporter of agricultural products. Competitive advantages in agricultural trade are particularly strong for U.S. grains and oilseeds.

These findings are based on comparisons of an economic statistic called "relative trade advantage," or RTA. The RTA identifies a country's competitive advantage or competitive disadvantage for an individual commodity or for an industry as a whole (see box).

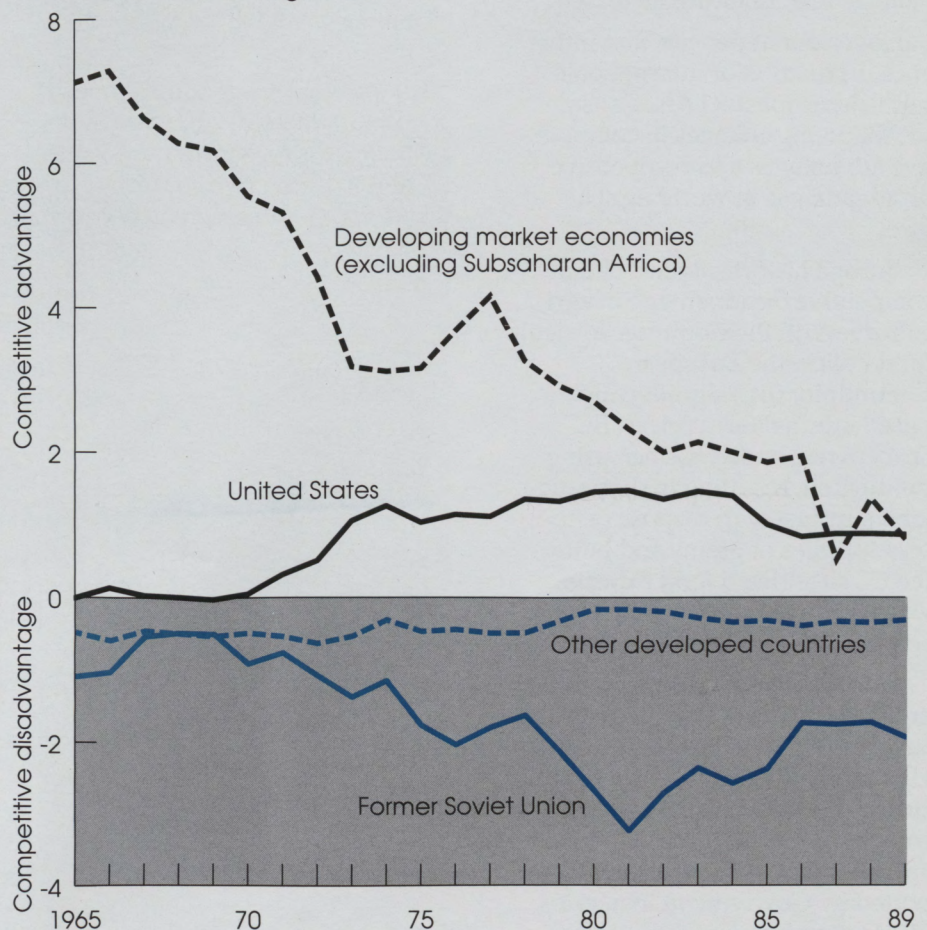
Based on international trade data, the RTA measures the ability of domestic producers of a specified commodity to compete against other commodities for national resources. It also shows how well the country competes in international markets for the specified commodity. RTA's are generally positive when exports exceed imports. Since no country exports without also importing, each country will have commodities with positive and negative RTA's.

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Figure 1

The United States Maintains Its Agricultural Competitive Advantage

Relative trade advantage index



Market Forces and Government Policies Can Change Trade Advantages

Changing world demand for a particular commodity or set of commodities brings about changes in RTA's. In the 1970's, for example, world demand for grains exploded. The United States was poised to meet much of this demand. With rising grain exports, the U.S. RTA in agriculture went from a relatively neutral position to a high positive position, indicating growth in competitive advantage (fig. 1). The former Soviet Union was a major purchaser of U.S. grains. With increased grain imports, their competitive disadvantage in agriculture increased.

Government policies that influence production or international sales also impact RTA's. Consider the following changes in competitive advantages and competitive disadvantages in world agriculture.

Europe historically has had a competitive disadvantage in agriculture. With the Common Agricultural Policy, the European Community (EC) significantly raised internal farm prices. EC farmers responded by increasing production, resulting in domestic food surpluses. To dispose of excess supplies of grains and butter, the EC subsidized food exports which reduced its competitive disadvantage.

EC food exports captured some of the U.S. market share, particularly for grains in the early 1980's. U.S. competitive advantage in agriculture dropped with increased competition, softer world demand, and high domestic prices supported by Government loan rates. The United States responded by lowering loan rates to make U.S. grain prices more competitive on world markets. Export enhancement programs were also estab-

Measuring Global Competitiveness and Bilateral Complementarity

A nation's competitiveness in the world market can be measured by the relative trade advantage (RTA) index. A positive value signifies competitive advantage, while a negative value denotes competitive disadvantage.

RTA's put country and commodity size effects within a comparative context, by showing the importance of each in terms of global trade. For example, a small country with specialized production in a particular commodity may be very competitive—have a high RTA—even though that country supplies only a small volume of the commodity's world exports.

Another trade statistic, called overall bilateral complementarity (OBC), measures the correlation between two countries' RTA's. Complementarity occurs when one country has competi-

tive advantages in commodities where the other country has competitive disadvantages. The OBC statistic is constructed to be positive when this happens. Bilateral competitiveness occurs when two countries specialize in the same commodities.

U.S. trade in food grains and jute provides an example of how bilateral complementarity is established. The United States has a competitive advantage in food grain production, while Bangladesh has a competitive advantage in jute production. By trading food grain and jute on the world market, each country's trade complements the other's. But it is important to recognize that OBC statistics encompass trade across many commodities. Therefore, the U.S.-Bangladesh OBC measure for the agricultural sector includes more than just food grains and jute.



Retting flax in Bangladesh.

lished to improve export sales. By 1986, U.S. grain exports stopped plummeting and its RTA in agriculture stabilized.

In response to the U.S. grain embargo in 1980, the former Soviet Union tried to improve its competitive position in agriculture. The policies adopted were partially successful, as their competitive position in agriculture improved. But, agricultural RTA's for the former Soviet Union still remain negative.

There are costs associated with subsidizing production or exports. The subsidies use resources that could be used more productively elsewhere in the economy. Also, subsidies help push up the country's exchange rate and raise the value of its currency. A rising value of the domestic currency indirectly taxes other export commodities, as their foreign currency prices increase.

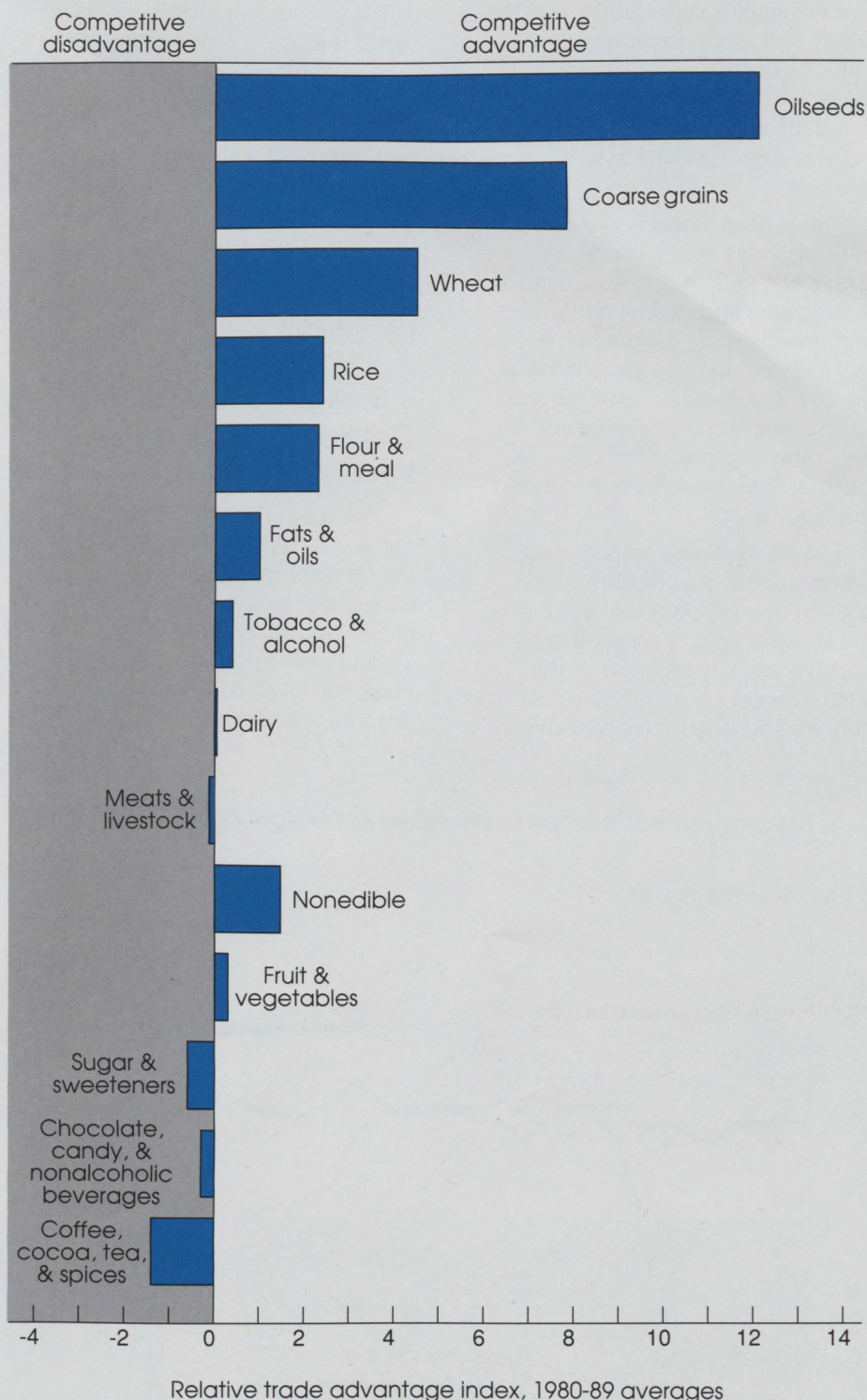
The developing market countries, excluding those in Sub-Saharan Africa, provide an example of how competitive pressures in other industries can affect agriculture. Most developing economies depend on agriculture to generate the foreign exchange needed to trade for world goods. As these countries develop, their industrial sectors typically grow and bid resources away from agriculture. The switch in resources from agriculture to other industries pushes down agricultural competitiveness. This explains the RTA decline for the developing market economies, excluding Sub-Saharan Africa (fig. 1).

U.S. Competitive Advantages in Agriculture

The United States exports large quantities of bulk agricultural commodities and is strongly competitive in oilseeds, coarse grains, wheat, and rice (fig. 2). The United States also enjoys competitive ad-

Figure 2

The United States Reveals Strongest Competitive Advantages in Bulk Agricultural Commodities



vantages, but to a lesser extent, in value-added commodities, such as flour and meal, fats and oils, fruit and vegetables, nonedible crops, tobacco, and alcoholic beverages. The U.S. dairy and U.S. meat and livestock industries are neither at a competitive advantage nor competitive disadvantage in world markets.

The United States is at a competitive disadvantage with coffee, cocoa, tea, and spices; sugar and sweeteners; and candy, chocolates, and nonalcoholic beverages. But these disadvantages are diminishing as a result of U.S. policies (such as import quotas on sugar) and the declining importance of U.S. agricultural imports relative to other imported goods.

The strongest competitive advantage for U.S. agriculture has been in oilseeds, but that edge is being threatened. U.S. oilseed competitiveness slipped during the 1980's, largely from advances in Argentine and Brazilian soybean sec-

tors. Argentina continues to pose a threat to producer interests in the United States because of lower production costs and higher yields. Brazil is also a major competitor for U.S. soybean producers because many Brazilian producers lack viable crop alternatives. Competition may be stronger from Argentina, because Brazilian transportation costs are higher. Argentine oilseed producers are concentrated near ports and, therefore, do not depend on high-cost, long-distance truck travel.

U.S. Agriculture Complements the Rest of the World

The "overall bilateral complementarity" (OBC) index for agriculture is a summary statistic that correlates two countries' relative global trade advantages across the agricultural commodity spectrum. From the OBC statistic, one can determine whether U.S. and foreign

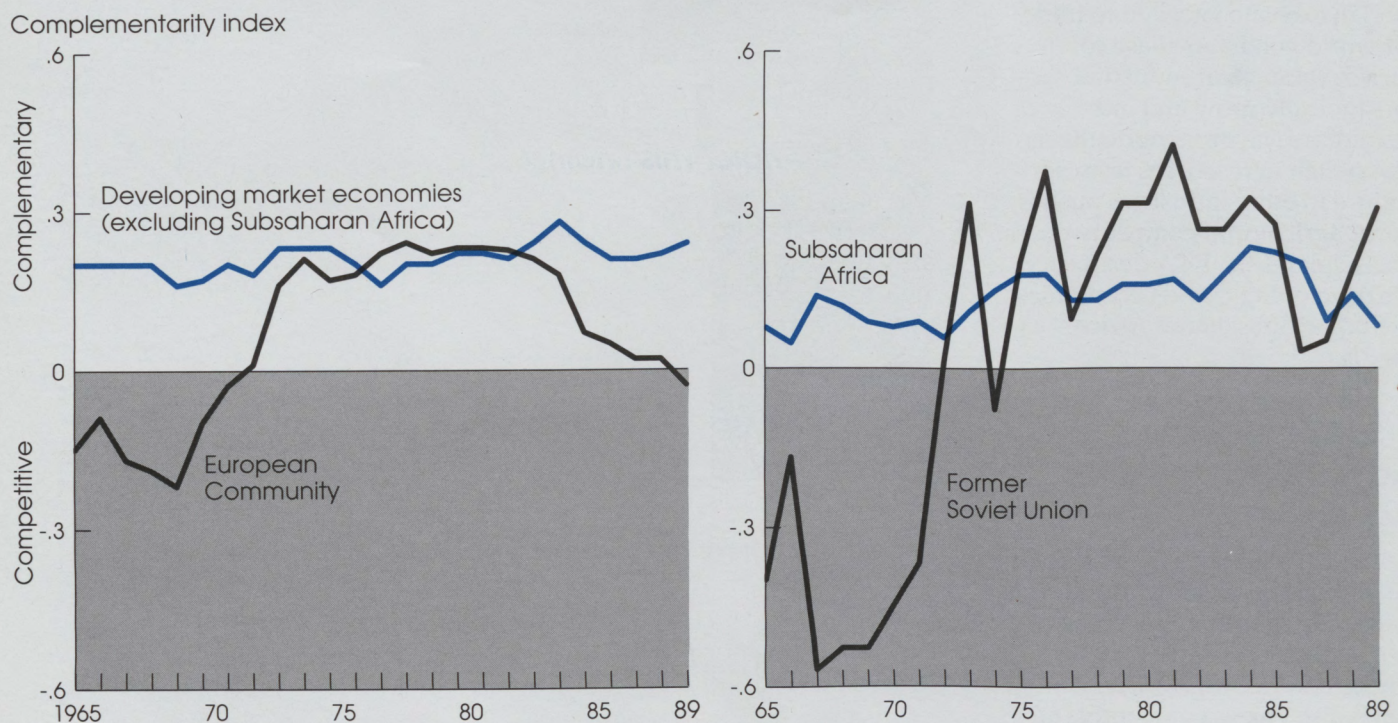
country trade in agricultural commodities is competitive or complementary (see box).

For the past two decades, U.S. agricultural trade has complemented trade by most other countries/regions (fig. 3). However, the U.S.-EC economic relationship characterizing agriculture crossed the threshold into the bilateral competitiveness zone in 1989 because the EC had heavily subsidized agricultural exports.

While agricultural trade typifying the United States and the former Soviet Union is complementary, the U.S.-Soviet OBC index has fluctuated widely. Variations in Soviet output were absorbed by the international market. The former Soviet Union imported large quantities of agricultural products during periods of scarcity, but few commodities when domestic products were in abundance. As the United States has been a reliable agricultural supplier on the world

Figure 3

U.S. Agricultural Trade Often Complements Foreign Agricultural Trade



market, it was the fluctuations in Soviet imports that affected the OBC index.

Although the United States and developing market countries are both strongly competitive in agriculture, their OBC index is bilaterally complementary—not bilaterally competitive. That is because the United States is competitive in grains and oilseeds, while developing market economies specialize in warm-weather commodities, such as coffee, tea, cocoa, spices, chocolates, and tropical produce.

The United States and Sub-Saharan Africa show strong bilateral complementarity, even though Sub-Saharan Africa has a much greater global competitive advantage for agriculture. This finding should allay concerns about conflicting interests in promoting agricultural development assistance to countries in Sub-Saharan Africa.

What the Future Might Hold

Future competitive advantages for and within U.S. agriculture could move up or down. Many factors will likely contribute to their rise. Lower real domestic interest rates and declining U.S. exchange

rates stimulate domestic investment in agriculture, enhancing the ability of the United States to compete in global markets. Domestic and trade policy liberalization in Europe and Japan will benefit U.S. agriculture. Improved management of U.S. policy, especially macroeconomic policy, will also benefit U.S. agriculture. For example, lower budgetary and trade deficits and a more stable growth in the money supply would help the United States achieve and sustain higher levels of performance in all exporting industries, including agriculture.

"U.S. trade and Sub-Saharan Africa's trade within agriculture are complementary—even though Sub-Saharan Africa has a much greater global competitive advantage for the sector as a whole. This finding should allay concerns about conflicting interests in promoting assistance for agricultural development in Sub-Saharan Africa."

Income growth in developing countries will raise demand for agricultural commodities and increase the demand for agricultural exports. The United States can capture this demand by focusing more on processed agricultural products. Sophisticated and discriminating U.S. consumers already induce domestic firms to innovate and generate quality, value-added agricultural products. These products will likely be competitive in the international marketplace as well. And since the United States possesses clear comparative advantages in many bulk agricultural commodities, linking these bulk commodities with their value-added, consumer-ready final products should allow the U.S. competitive trade advantage in value-added products to grow.

U.S. competitive advantage in agriculture may, however, diminish. Factors that could contribute to such a decline include productivity gains in the U.S. nonagricultural economy outstripping technological gains in the agricultural sector, increases in the value of the U.S. dollar, lower taxation of agriculture in developing countries, and continued trade protection of agriculture in developed countries. ■