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↑↓ Trade is a Two-Way Street

Policies and Prospects for U.S. Agricultural Exports in the Coming Decade

by Thomas W. Hertel

The World Trade Organization recently announced that global trade in goods and services has reached an all-time high. We purchase fruit and vegetables from Chile, shirts from Indonesia, toys from China, coffee makers from Germany, and cars from who knows where. International trade permeates every aspect of our lives. Nowhere is this more true than in U.S. agriculture, where farmers now plant one out of every five acres of cropland for export. Future prospects for growth in this sector depend critically on export markets and hence on world economic growth and continued liberalization of trade policies overseas. I illustrate this point with a set of projections for the year 2005.

Growth of U.S. agricultural exports will necessarily be accompanied by growth in imports of all sorts. Indeed, I will demonstrate that if we move to restrict our imports of manufactures, there will be an adverse effect on our agricultural exports. It is in the interests of U.S. agriculture to promote freer

trade in both agricultural and manufacturing products: *Trade is a two-way street.*

Drivers of change

Figure 1 shows that traditional U.S. food and agricultural export markets in Europe, Canada, Australia, and New Zealand declined in importance since 1970, while those in East Asia increased. Within East Asia, Japan is the dominant market. But will this continue? Which country will be the "next Japan"? Or, more fundamentally, what drives changes in the pattern of farm and food exports?

Engel's Law

Engel's Law underlies some of the most important changes in the food sector. This law asserts that poor people spend a much higher percentage of their income on food than do people with high incomes. For example, in 1985, consumers in India devoted an average of 51.6 percent of their expenditures to food, compared to only 10.4 percent for U.S. consumers. The implication is clear. An additional dollar of income growth in developing countries boosts worldwide demand for food much more than an equivalent amount of additional income in wealthy, post-industrial nations. In addition, with higher incomes, those living in relative poverty will upgrade diets from grains to livestock products, a switch which requires much more agricultural output per calorie supplied.

GDP growth

How might incomes in poor countries change in the future? Figure 2 displays cumulative growth in gross domestic product (GDP) over the period 1992 to 2005, as projected by the World Bank. The most rapid growth is expected to occur in Asia,

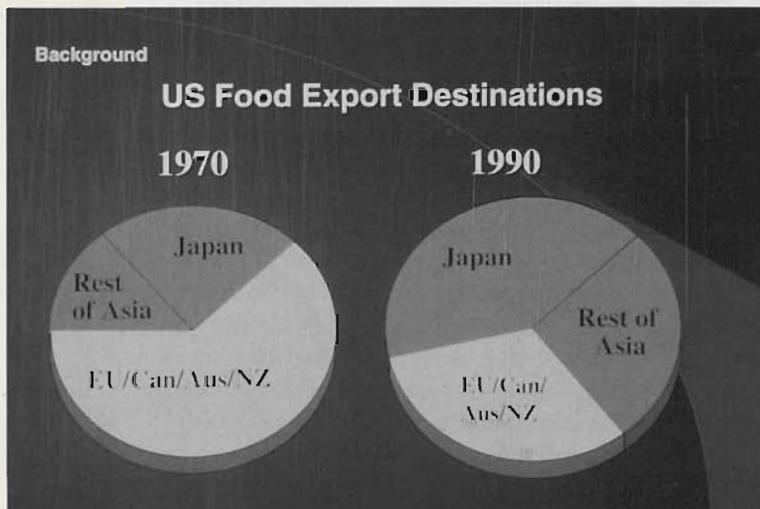


Figure 1

and China in particular. Here, the cumulative growth rate over the thirteen years from 1992 to 2005 is expected to be 200 percent. The economy's size will triple! Depending on where the growth occurs, and how much of it benefits the poorest households, this could have a profound effect on the demand for food. When coupled with relatively slow growth in the mature markets of the U.S., Europe, and Japan, this rapid growth in Southeast Asia and China will change the shape of our export "pies." Other countries will likely join, or surpass, Japan as principal destinations for U.S. food exports.

Changing comparative advantage

Supply factors will also affect U.S. farm and food exports. The theory of comparative advantage tells us that production in an economy must shift toward the output of goods which use the rapidly accumulating factors of production most intensively. Japan, Korea, and Taiwan have shifted resources out of labor-intensive manufacturing and into physical and human-capital-intensive manufacturing. In Southeast Asia and China, changing comparative advantage has shifted production from land-intensive agriculture to labor-intensive manufacturing. The ensuing relative decline in agriculture in East Asia has further improved opportunities for U.S. agricultural exports to this region.

What might happen to comparative advantage in the coming decade? To help make our assessment, we project changes in the capital-labor ratios for the same economies noted above. In practical terms, the capital-labor ratio measures the amount of machinery—tractors, drill presses, computers, etc.—aiding the work of each employee. When the ratio of machines to workers increases rapidly, owing to high rates of saving and investment, we expect shifts in comparative advantage and hence changes in the mix of products supplied.

Figure 3 displays projected changes in capital-labor ratios over the period 1992–2005, based on information from the World Bank. The rate of structural change in the established economies, including Japan, is expected to be relatively modest. In Latin America and sub-Saharan Africa, the capital-labor ratios are actually projected to decline over this period. However, Southeast Asia and China show very high rates of change. This puts great pressure on the economy to adjust the mix of products supplied. China, for example, is currently undergoing rapid transformation from a rural agrarian economy to an urban manufacturing economy.

Projections for 2005

To project U.S. food exports to Asia in the year 2005, we use the Global Trade Analysis Project

(GTAP) framework. GTAP consists of a publicly available, global data base and model describing bilateral trade flows between countries and inter-industry relationships within each country. This framework accounts for both the demand and supply (continued on p. 24)

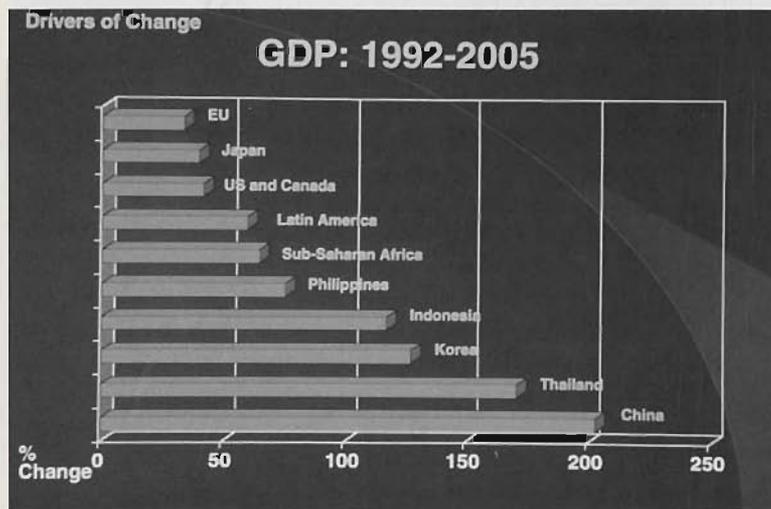


Figure 2

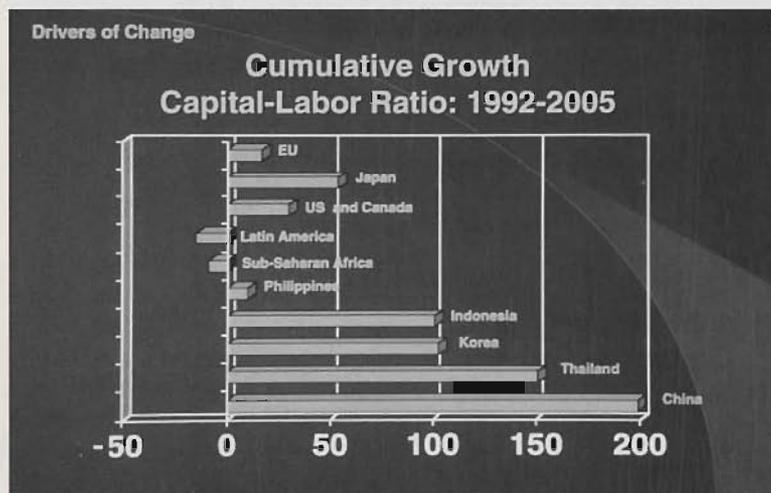


Figure 3



Figure 4

(continued from p. 21)

ply side forces discussed above. The projections in figure 4 show a continuation of the shift toward Asia, only now, rather than Japan absorbing the increased U.S. food exports, the newly industrializing economies in Southeast Asia and China will add the largest increment to U.S. food exports.

Role of Trade Policy

The projections in figure 4 do not account for potential changes in trade policy over the coming decade. In many cases these changes are difficult to anticipate. However, the recently concluded Uruguay Round negotiations, sponsored by the GATT/WTO, do offer one concrete set of changes which may be examined. The goal of this multilateral agreement is to force the same "rules of the road" on trade in farm and food products as those that apply to other types of merchandise trade. The agreement puts a cap on domestic subsidies, reduces export subsidies, converts a plethora of quantitative restrictions and other nontariff barriers into tariffs, and then over time reduces the tariffs.

The GATT/WTO agreement will phase in over ten years. To assess its effect, I looked at the likely changes over this period, both with and without these reforms. The lower bars (the second bar for each region) in figure 5 show GTAP-based projected changes in agricultural output, by region, over the 1992–2005 period, *in the absence of the Uruguay Round agreement*. Countries are ordered in the same way as in earlier figures, i.e., by economywide growth rate. The fact that the lower bars in this figure are not strictly increasing as one moves from slow growth to high economic growth rates means that the relative importance of agriculture across these economies will be changing at different rates. Sub-Saharan Africa, with its relatively high rate of population growth and low rate of capital accumulation, is expected to increase ag-

ricultural output relatively more than other regions with similar rates of GDP growth. We project that China will have the most rapid growth rate in agricultural output, but agriculture still grows much slower than the rest of the economy. The upper bars in figure 5 project changes in output in the presence of the Uruguay Round reforms. By comparing the lower and upper bars, we see the net effect of the round on agricultural output across these ten regions. Note, particularly that (a) output still increases in all regions; (b) the GATT agreement reduces output in the EU, Japan, the Philippines (dramatically), Indonesia, Korea, and Thailand, relative to the level which would have occurred in its absence; and that (c) the agreement contributes to output increases in the U.S. and Canada, China (not part of the agreement), and some of the regions which have been omitted from this figure. In general, figure 5 shows that this global trade agreement will reinforce the strong underlying growth in food exports to the Asian markets.

Nonagricultural aspects of the Uruguay Round agreement contribute importantly to the lower levels of Asian agricultural output growth shown in figure 5. For example, the round dictates the gradual relaxation, and ultimate abolition, of a very restrictive set of bilateral quotas on trade in textiles and wearing apparel set under the Multifiber Arrangement (MFA). These quotas historically have limited imports of textiles and wearing apparel into the U.S. and Europe, and their elimination promises to increase production and exports from the developing economies in Asia. This increase is, in turn, expected to draw resources away from the farm and food sectors. By making it easier for Asian manufacturers to export their products, it becomes easier for the U.S. to sell farm and food products in Asia. *Trade is a two-way street*. This important link between protection for U.S. manufactured goods and U.S. agricultural exports deserves additional discussion.

Agricultural exports and protection for manufactured goods

The fact is, if we wish to export more food and agricultural output to Asia, we must expect Asia to export more of something else to us. In the long run, cumulative exports and imports tend toward balance. Since the U.S. is the world's largest market, Asia will naturally direct a good share of its increased exports toward the United States, to the great benefit of U.S. consumers. Yet we have resisted this flow of foreign goods in recent decades through a variety of trade policy measures, of which the Multifiber agreement, or MFA, is but one.

Is reform of the MFA important enough to worry

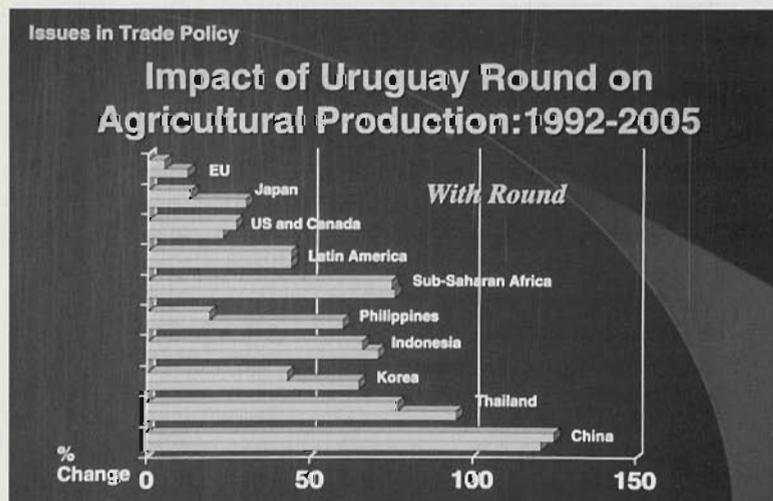


Figure 5

U.S. farmers? I used the GTAP model to simulate the likely effect of abolishing the textiles and wearing apparel quotas in 2005, as currently planned under the Uruguay Round agreement. This trade policy reform generates a strong response in many developing countries, especially Indonesia and South Asia (figure 6). These two very populous regions are important producers of textiles and wearing apparel. Their large populations also make them important future export markets for U.S. agricultural produce. As a result of abolishing the MFA, I project that agricultural exports from the U.S. to Indonesia will increase by 16 percent. For India, our exports increase 13 percent. By restricting imports of light manufactures from Asia, we not only raise prices to consumers, we also limit our exports of products in which we have a comparative advantage—including food and agricultural products. Measures to free these trade flows will benefit U.S. farmers. Indeed, our analysis shows that the U.S. economy as a whole will benefit from elimination of the MFA quotas. The estimated annual gain is \$23.5 billion/year in the year 2005.

Of course, the MFA is only one of a great number of tools that have been used to restrict Asian access to the U.S. market. Voluntary export restraints on steel and automobiles have been widely employed in the past. Currently the most popular tools include antidumping and countervailing duties. Here, U.S. manufacturers can initiate proceedings against foreign exporters accused of “dumping” their products in the U.S. market. While this type of measure may appear defensible, in practice these measures are commonly used to threaten legitimate exporters with additional duties if they don’t restrain exports and raise the prices charged to U.S. consumers. At the end of 1992, some 266 antidumping orders were in place, with an average rate of 45 percent—about nine times as high as the average tariff on manufactured imports coming into the U.S. Individually, each of these measures designed to protect U.S. manufactures ends up reducing U.S. agricultural exports. When combined, they amount to a significant “tax” on U.S. agricultural exports to Asia.

Agricultural protectionism in Asia

Just as the United States is struggling to hold on to traditional manufacturing jobs in industries such as clothing, many Asian countries worry about their increasing reliance on imported food products. Historically, countries have tended to increase protection for agriculture as industrialization occurs. This



Figure 6

has been the subject of many studies, and it is particularly well illustrated in East Asia, where countries such as Japan and Korea moved from taxing to subsidizing agriculture as the relative size of this sector declined in the wake of industrialization. Similar tendencies seem to be arising elsewhere in the region. For example, China’s agricultural policy appears to be at a turning point. Up until 1993, studies showed negative protection for grains. However, in May of 1995, one study showed that Chinese policies had caused domestic wheat prices to rise sharply above international prices, perhaps by as much as 50 percent! Should this type of protectionist policy become a permanent feature in China, this would significantly limit future export opportunities to this country. Bringing China into the Uruguay Round agreement would help bind protection at, or near, current levels.

Focus on comparative advantage

Despite its worldwide decline as a share of GDP, food and agriculture will continue to be an essential ingredient in human health and prosperity. The U.S., with its abundant natural resources, its land grant system, and its strong agribusiness sector, is well positioned to supply these goods and services to the world market. However, to succeed, we must recognize the importance of maintaining free and open trading relations and focusing on our areas of comparative advantage. We must export what we do best and import the rest! ■

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