
A New Agricultural Policy for a New World Market

By Alan Barkema and Mark Drabenstott

A new farm bill will be enacted in 1995, and the debate over it has already begun. With farm bills being renewed just once every five years, the 1995 bill provides a propitious opportunity to re-evaluate the current bill in light of fundamental changes to the marketplace since the adoption of the 1990 bill. One of the most important changes since then has been in the world food market. Selling successfully in world markets is vital to U.S. agriculture because it produces far more food than domestic consumers require. Thus, while the upcoming farm bill will spawn debate on many issues, few will be more important than reconciling U.S. agricultural policy with a new world food market.

Recent developments in the world food market reflect basic changes in two key market features. The market for finished food products is much stronger than for bulk commodities. This trend has held down the growth in U.S. agricultural exports because bulk commodities still account for most of our foreign sales. The food market has also been growing more rapidly in Asia and North

America than in Europe. This trend has prompted U.S. exporters to shift their sales away from a traditional dependence on Europe, a shift that appears well under way.

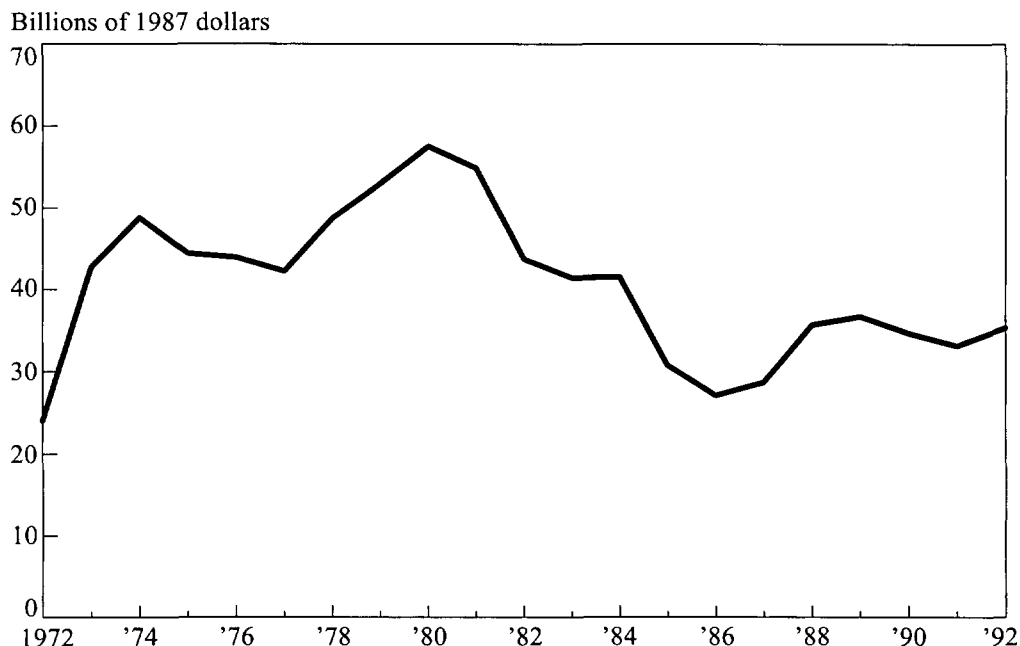
If these trends persist, will current farm policy be in step with the world food market of the future? This article's examination of the factors likely to shape the world market concludes that agricultural policy must be overhauled if U.S. agriculture is to excel in tomorrow's marketplace. The first section of the article reviews recent fundamental changes in the market for U.S. agricultural exports. The second section explores the future direction of the world food market. The final section discusses policy changes that may be needed for U.S. agriculture to take full advantage of the new opportunities emerging in the global food market.

RECENT TRENDS IN U.S. AGRICULTURAL EXPORTS

U.S. agricultural exports began to recover in 1986 after plummeting in the early and mid-1980s. The recovery period provides a useful gauge of the basic changes occurring in the world food market (Chart 1). Two key trends underlie the recovery. The first trend relates to *what* products the United States is selling. Traditionally, bulk commodities have dominated, but sales of consumer

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Chart 1

U.S. Agricultural Exports

Source: U.S. Bureau of the Census trade data.

products are now growing more rapidly. The second trend relates to *where* the United States is selling. The United States is shifting its sales away from Europe to the Pacific Rim and North America.¹

Trends in product sales

Historically, the United States has primarily been an exporter of bulk farm commodities. The nation's vast cropland, favorable climate, and well-developed infrastructure helped the United States take advantage of the 1970s boom in farm commodity trade. Recent trends, however, suggest that the United States must continue to adjust its products to a world market where finished food

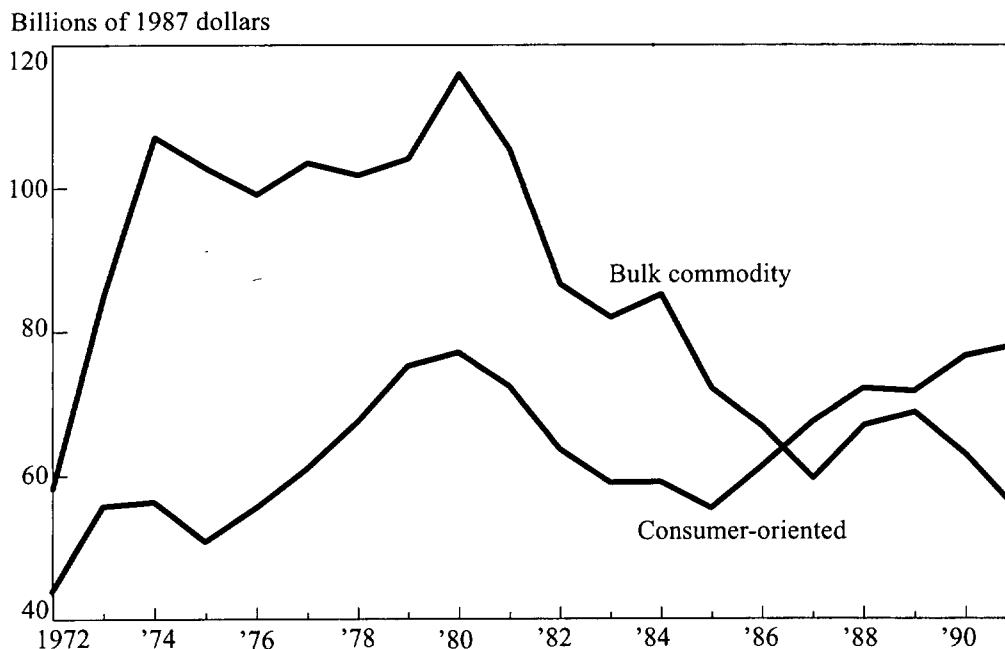
products are in greater demand.

Measured in real terms, world food trade has increased nearly a third over the past two decades. All of the growth has been in consumer and related products (Chart 2).² Bulk commodity trade grew substantially through the 1970s but fell sharply in the 1980s and now stands below its pre-boom level.

Despite the prominence of consumer products in the world marketplace, bulk commodities continue to dominate U.S. exports. While consumer products account for 45 percent of world agricultural trade, they make up less than a third of U.S. agricultural exports. U.S. exports of bulk commodities have fallen from a two-thirds share of all U.S. agricultural exports in the early 1970s, but they are still much more important than consumer

Chart 2

World Agricultural Trade
Excluding Intra-EU Trade



Source: Food and Agricultural Organization of the UN and U.S. Bureau of the Census trade data.

products. In the world market, by contrast, bulk commodities account for less than a third of all agricultural trade.

Growth of U.S. exports since the mid-1980s has been much stronger for consumer products than for bulk commodities. U.S. exports of consumer products have swelled 12.5 percent a year over the recovery, double the annual growth of total food trade worldwide during the same period. Despite this growth, the United States has made only modest overall gains in the world market since the U.S. share of world trade in consumer products was small to begin with. Currently at just 13 percent of the world market, the U.S. share is still only half that of the European Union (EU) (Chart 3).

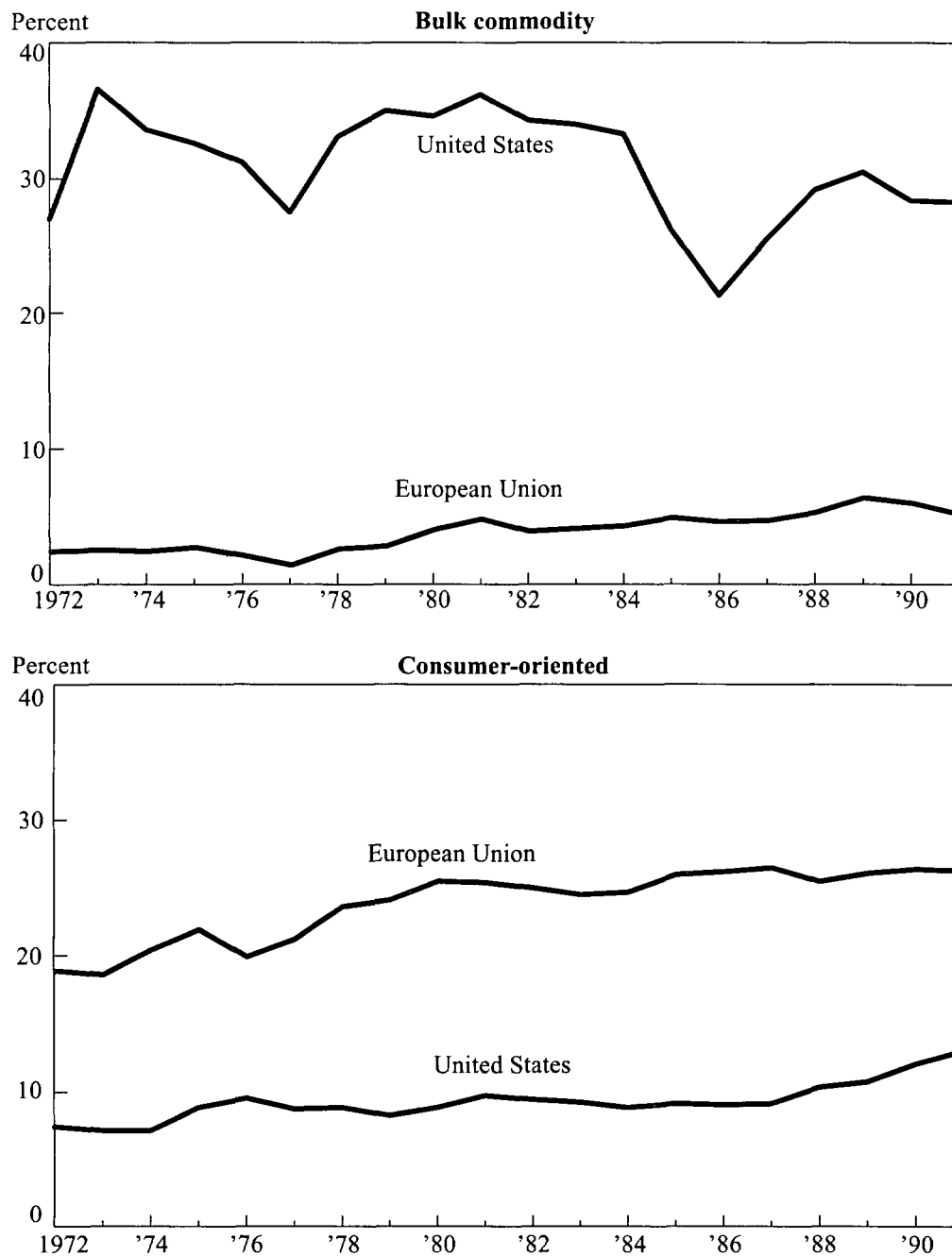
U.S. exports of bulk commodities, in contrast,

are improving but remain below their level of a decade ago. Bulk exports from the United States have actually fallen 2.1 percent a year since the early 1980s, but world bulk trade has shrunk even faster. The United States currently has a 28 percent share of the world's bulk commodity trade, up from about a fifth in 1986 but still less than its 36 percent share in the early 1980s. During this time, the EU has essentially maintained its 5 to 6 percent share of bulk commodity trade, mainly through hefty export subsidies. By the same token, recovery in the U.S. market is at least partly due to greater U.S. export subsidies under the Export Enhancement Program.

In short, the United States has traditional strength in bulk commodities, but that market has

Chart 3

Shares of World Agricultural Trade
Excluding Intra-EU Trade



Source: Food and Agricultural Organization of the UN and U.S. Bureau of the Census trade data.

continued to shrink. And the U.S. share of the market remains below levels at the peak of the boom. Meanwhile, U.S. exports of consumer food products have grown rapidly throughout the export recovery, although the U.S. market position remains relatively small in these high margin products. Though rapid growth in world trade in consumer food products might be expected to boost sales of U.S. bulk commodities to foreign manufacturers, this linkage has not been evident yet.

Trends in trading partners

Since the export recovery began in 1986, a modest realignment has occurred in U.S. agriculture's trading partners. Europe and Japan have long been considered U.S. agriculture's best customers. However, these nations are mature food markets. U.S. sales to North America and other Pacific Rim countries have grown more rapidly. The former Soviet Union, despite the attention it receives by many producers and policymakers, remains a relatively small market for U.S. agricultural exports.

The most important buyers of U.S. agricultural exports throughout the recovery have been the Pacific Rim countries. The share of total U.S. exports bought by Pacific Rim countries has risen from 34 percent to 37 percent, the biggest of any region (Chart 4). Japan has been an important and steady customer, accounting for just under a fifth of U.S. foreign sales. More and more of the sales to Japan are consumer food products. U.S. firms now sell roughly equal amounts of bulk and consumer products to Japan. The consumer sales are especially vital, making up a quarter of total U.S. exports of such products. South Korea, Hong Kong, and Taiwan have also been strong Pacific Rim markets for U.S. consumer food exports.

Europe has fallen off sharply as a buyer of U.S. agricultural exports. The EU share of total U.S. agricultural exports fell from a fourth in 1986

to a sixth in 1992. Part of that market drop is probably due to the EU's mountain of agricultural subsidies and its trade barriers against U.S. products.

North America has taken up much of the slack from Europe. North America now accounts for a fifth of U.S. agricultural exports, double its share in 1986. Helped by the freer trade provisions of the Canada-U.S. Trade Agreement, U.S. exports to Canada have more than tripled since 1986, boosting Canada's share of U.S. agricultural exports to more than 11 percent. Canada has become an especially important market for U.S. consumer food products; a fourth of such exports head north. The dramatic turnaround in Mexico's economy, meanwhile, has led to a surge in U.S. exports, and Mexico's share of our exports during the recovery has more than doubled.

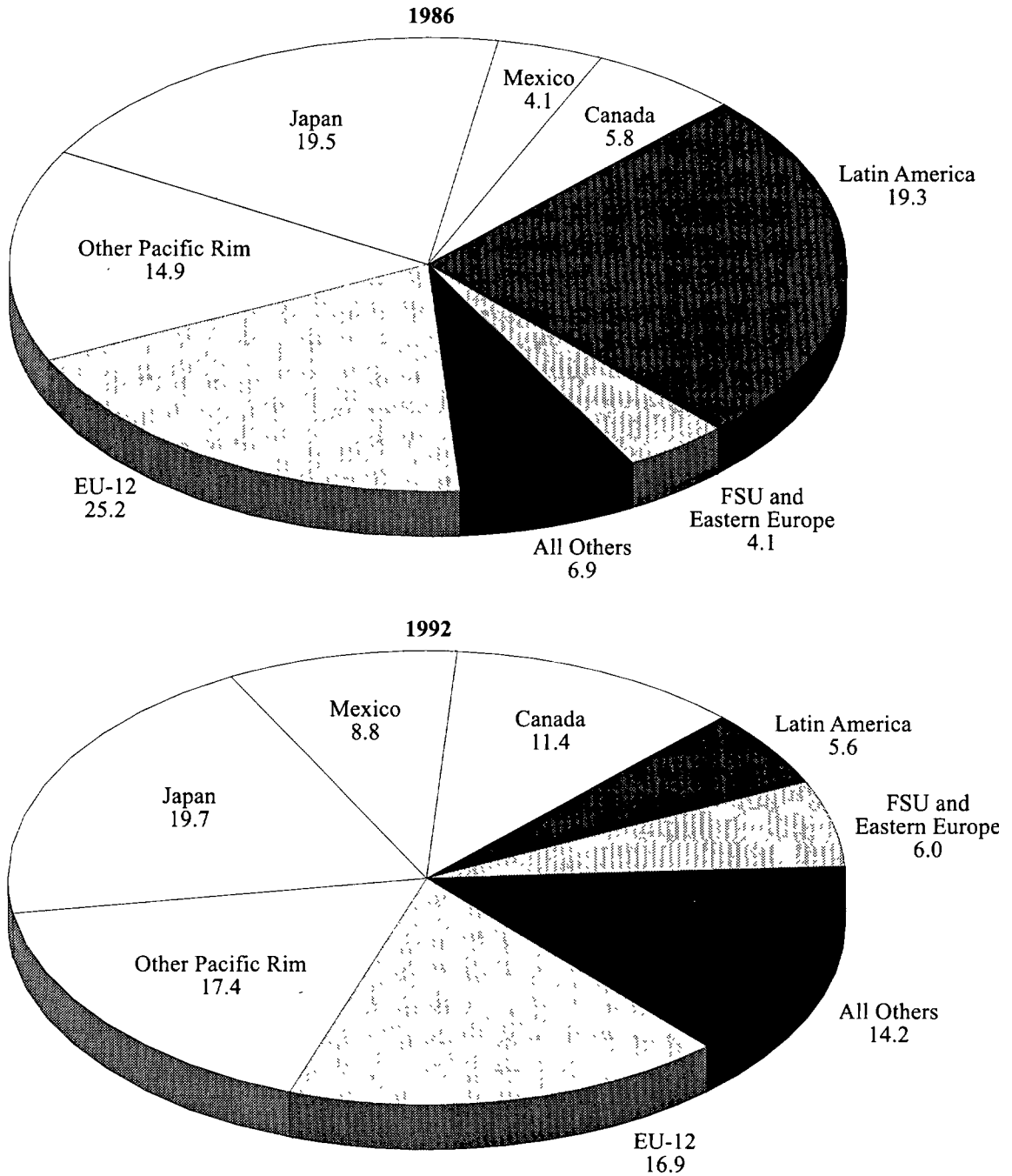
The former Soviet Union has increased slightly as a market for U.S. agricultural exports in recent years. Those gains, however, were dependent on heavy use of credit guarantees and other export subsidies. Without that assistance, U.S. sales to the various republics would have fallen.

In short, recent trends reveal some important realignment in U.S. trading partners. Europe is a waning market, although it could rebound somewhat as agricultural subsidies and trade barriers there decline under the GATT agreement. Sales to Canada and Mexico have grown smartly, a trend that NAFTA will build upon. And the Pacific Rim remains the dominant market, especially for consumer products.

THE WORLD FOOD MARKET OF THE FUTURE

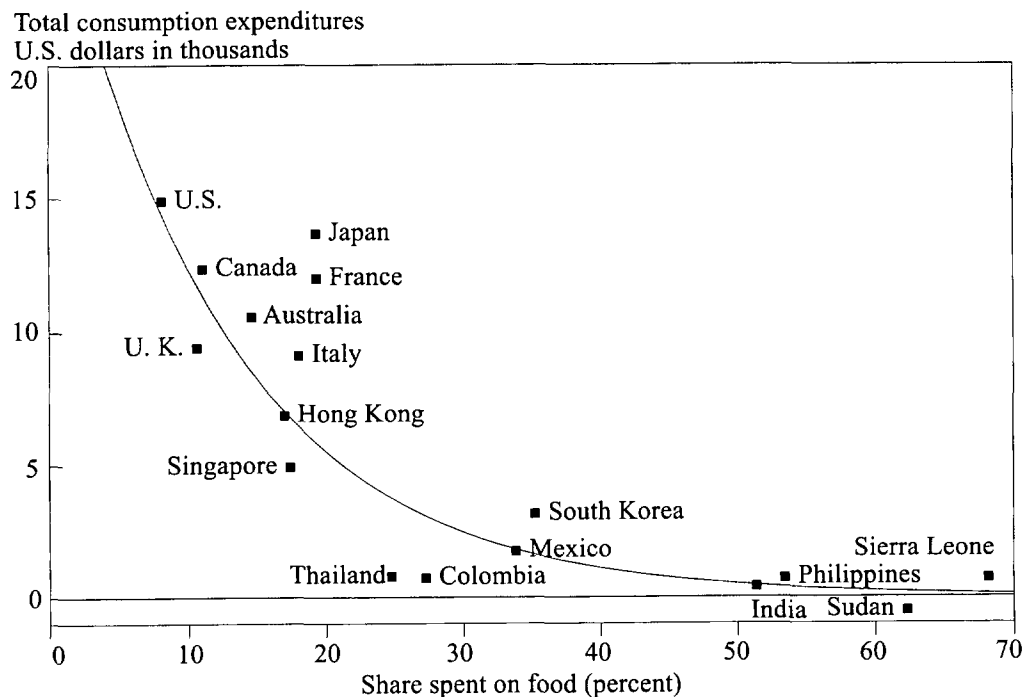
Further growth in U.S. agricultural exports hinges on the pace of growth in foreign populations and incomes, the key fundamentals underlying world food demand. The strongest population and income gains are occurring in the rapidly

Chart 4

Shares of U.S. Agricultural Exports
Percent

Source: U.S. Bureau of the Census trade data.

Chart 5

Share of Average Household Budgets Spent on Food

Source: Putnam and Allshouse (1993).

developing countries of Asia, particularly the Pacific Rim countries, and Latin America. Because local food production there is not keeping pace, the recent shift in U.S. farm exports toward Asia and Latin America promises to be the wave of the future.

World food demand

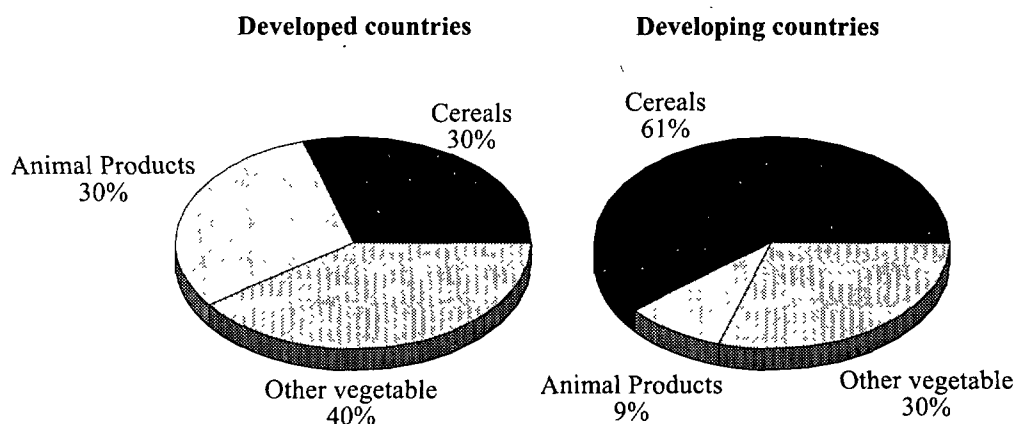
Population growth is a key parameter in the world food market, since food demand generally rises in direct proportion to increases in population. The world population is currently about 5.6 billion and growing about 1.5 percent a year. Population growth is expected to slow gradually

in all parts of the world during the next 30 years. Nevertheless, the population in the developing world is expected to swell nearly four times faster than the much smaller population of developed nations. Thus, even with the gradual slowing expected in the world population overall, by the year 2020 nearly 8 billion people will rely on the world's farmers. And nearly 85 percent of those consumers will live in Asia, Africa, and Latin America (U.S. Bureau of the Census).

Also playing a key role in the global food market of the future will be income growth. Food demand generally rises with gains in income. Unlike increases in population, however, gains in income generally push up food demand less than proportionately. Thus, income growth has a smaller

Chart 6

**Contribution of Major Food Groups to Per Capita Calorie Supplies
1986-88**



Source: Food and Agricultural Organization of the UN, Food Balance Sheets (1991).

impact on total food demand than population growth. Still, growing incomes can have a big impact on food trade, since higher incomes enable consumers in developing countries to upgrade and diversify their diets by purchasing foods from abroad that they cannot produce themselves.

Rising incomes will have the biggest impact on food demand in developing nations, where a large share of household budgets is spent on food. Most consumers in the developing world are likely to spend a significant portion of any additional income on food. For example, in Sierra Leone, Sudan, the Philippines, and India, spending on food accounts for well over half of total consumer spending (Chart 5). In contrast, food's share of

household spending is much smaller at the high end of the income spectrum. In the United States, Canada, and most European nations, food accounts for less than 20 percent of household budgets, implying only a small boost to food demand with further gains in income.

As incomes rise, consumers also change the mix of foods in their diets. In many developing countries, low-income consumers are primarily concerned with consuming enough calories. But as incomes rise, consumers add more variety and quality to their diets, shifting from root crops and rice to wheat products, which require less at-home preparation, and eventually to relatively expensive animal products. At the highest rung on the food ladder, attained by only the world's wealthiest

Table 1

World Grain Consumption and Production

	Share of grain consumption produced at home (Percent, 1985-92)	Annual per capita production (kg, 1985-92)	Annual growth in per capita production (Percent, 1970-92)	Annual per capita consumption (kg, 1985-92)	Annual growth in per capita consumption (Percent, 1970-92)
World	100.2	322	.4	321	.2
North America					
United States	139.5	1,197	1.9	858	.5
Canada	196.0	1,904	1.3	972	-.3
European Union	115.2	527	1.6	458	-.2
Former Soviet Union	86.0	611	-.4	710	-.1
Latin America	94.8	237	-.3	250	.5
Africa	75.3	124	-1.4	164	-.1
Asia	91.6	217	1.0	237	1.1
Oceania					
Australia	293.5	1,321	1.0	440	.9

Source: U.S. Department of Agriculture, PS&D View (1993).

consumers, direct consumption of cereals falls sharply and consumption of animal products shoots up, pushing up demand for cereals as live-stock feed.³ In the wealthiest nations, increases in household income also push up demand for more highly processed, conveniently prepared food products and food prepared outside the home.

Compared with consumers in the wealthier countries, consumers in developing countries on average still derive a far higher proportion of their calories from cereals (about twice as much) and a much smaller proportion from animal products (about a third as much) (Chart 6). A pronounced, gradual shift away from cereals and toward animal products is under way in the diets of many Asian

and Latin American nations where consumer incomes are rising rapidly. For example, the proportion of total calories derived from animal products has tripled in Korea and nearly doubled in Japan, China, and Mexico during the past 25 years, while the proportion derived from cereals has fallen sharply (Mitchell and Ingco).

World food trade

Overall, gains in global food supplies are keeping pace with the world's growing food needs, and this pattern seems likely to continue. As a result, the outlook for providing an adequate diet for a larger proportion of the world population is rela-

Table 2

Annual Growth in World Grain Trade

(Percent)

<u>Net exports</u>	<u>1970s</u>	<u>1980s</u>	<u>1990s</u>
Developed countries	16.9	.0	1.9
United States	11.1	-3.5	2.0
European Union	NA	20.8	4.1
<u>Net imports</u>			
Developing countries	13.1	3.7	4.9
East Asia	7.1	3.7	3.7
South Asia	5.2	3.3	12.3
Latin America	7.0	.5	3.3

Source: Mitchell and Ingco (1993).

tively bright. A global mismatch, however, between the places where most of the population lives and the places where most of the food is produced underscores the growing importance of food trade.

Cereal grains are a useful proxy for tracking overall trends in the world food market because they are by far the world's most important food, either to be consumed directly or as livestock feed.⁴ Steady gains in world grain production have easily outpaced growth in the world population during the past two decades, pushing up per capita grain supplies almost a half percent a year and improving the diet of most of the world's population (Table 1). With slower growth in the world's population and steady gains in grain yields likely in the years ahead, further improvement in world diets will be possible.

Improvement in diets in much of the world will require a significant expansion in food trade. Much of Asia, Latin America, and Africa—where a substantial majority of the world's consumers live—do not produce enough food to meet domes-

tic needs, and their food supply gap is likely to widen in the years ahead. Since 1985, the share of grain consumption produced domestically averaged only 75 percent for Africa, 92 percent for Asia, and 95 percent for Latin America. In each of these areas, per capita consumption has risen faster than per capita production for at least the past two decades. A combination of further population growth (albeit gradually slowing) and brisk income growth promises to widen the gap between local food consumption and production. But higher incomes will better enable most consumers in Asia and Latin America to fill their food supply gap with purchases in the world market.⁵

In contrast, a relatively small handful of countries produce more grain than is needed to meet their domestic needs, creating large food supplies for export. The leaders among these are the United States, Canada, the EU, Australia, and Argentina. Consumers in these nations are already well-fed with per capita grain consumption well above the world average. Moreover, slow population growth

and steady gains in production point to even larger exportable supplies in the future.

The growing mismatch between where food is consumed and where it is produced promises stronger growth in world food trade in the years ahead. Mitchell and Ingco (1993) estimate that growth in grain exports from the developed countries will average about 2 percent a year in the 1990s, up from the flat market of the 1980s but still well below the double-digit growth recorded during the 1970s (Table 2). Meanwhile, the annual growth of grain imports in the developing countries could pick up to about 5 percent a year, fueled by strong growth in Asia and Latin America.

Whether the developing nations will import their food needs in the form of grains and other bulk commodities or as processed food products is an open question. Rising incomes could encourage bulk commodity imports to be processed domestically into the products that more affluent consumers in developing countries demand. In most developing countries, however, capital is scarce and labor is abundant. Thus, developing countries may favor imports of consumer foods which require capital-intensive processing, continuing the recent trend toward much more rapid trade growth in consumer food products than in bulk commodities.

In either case, the outlook points to moderate growth in the world food market. The population of the developing world, which is growing in size and affluence, will increasingly rely on the world market for a bigger share of its food needs. But world food demand should remain comfortably within the capacity of the major food producers, and competition is likely to remain keen among them. Meanwhile, new competitors in the market may emerge as further reform in the former Soviet Union and Eastern Europe scales back consumption, boosts production, and frees food supplies for export. Thus, the world food market of the 1990s promises to be much stronger than in the 1980s but much less vibrant than the booming market of the 1970s.

RECONCILING OLD POLICY WITH A NEW MARKET

Faced with this outlook, U.S. agriculture can choose from two broad strategies to improve its position in the world market. First, it can try to sell more bulk commodities. Prices for bulk commodities, however, will probably be relatively low and declining in real terms, as the global spread of a new generation of agricultural technologies assures ample commodity supplies. Thus, the industry must accept thinning margins while constantly cutting costs of production with the newest technologies. This strategy would essentially continue the approach that many in the sector currently follow.

Second, the industry can take advantage of rapid growth in more profitable consumer food products. Food companies may try to sell more, either by investing abroad or by expanding shipments from U.S. plants. Investment appears to be the more likely channel to foreign buyers; 1993 sales from foreign affiliates of U.S. food processing firms were more than three times exports of consumer food products. But growing investment abroad translates into gains for U.S. farmers only if foreign affiliates purchase bulk commodities here. To date, rapid growth in consumer food trade has not led to a marked increase in sales of U.S. farm commodities.

Regardless of which strategy is pursued, changes in agricultural policy will be needed. The outlook for the world food market and its related opportunities have four important implications for agricultural policy. First, U.S. interests in international policy matters will lie more in economic and trade policies and less in attempts to wrestle down agricultural subsidies abroad, the primary focus of recent years. Second, the export outlook raises questions about the validity of U.S. commodity programs. Third, programs that idle U.S. acreage may hurt U.S. competitiveness. And finally, programs aimed at developing foreign markets need to be reappraised in light of current trends and market fundamentals.

International policies

For more than a decade, U.S. agriculture has carried one message to international policy debates: lower agricultural subsidies and trade barriers worldwide. The mountain of European agricultural subsidies and barriers to U.S. products in many markets have been powerful motivating forces for that message.

In a post-Uruguay Round world, when subsidies will be coming down—albeit slowly—a new message is needed. Moreover, with the prospect of plentiful supplies of food, further reductions in subsidies would not address the principal problem anyway. That problem is too little demand. U.S. agriculture has great capacity, but that capacity becomes an asset only when growth in world food demand is robust. Thus, U.S. agriculture has much to gain from economic and trade policies that boost economic growth in regions like Asia and Latin America, where populations are growing fast. Ironically, the biggest benefit to U.S. agriculture from the Uruguay Round will probably be its boost to world income and food demand, not its reduction in global agricultural subsidies.

Commodity programs

A world market with sluggish trade in commodities and brisk trade in consumer food products raises some fundamental questions about the validity of U.S. commodity programs. First, the cost of such programs is likely to be high due to the prospect for weak market prices for major crops. The cost of the programs is already under considerable scrutiny in an environment of tight federal budgets.

Second, U.S. support prices could hurt the competitive position of many bulk commodity exports. Support prices were reduced in the 1985 and 1990 Farm Bills. But if world prices decline in real terms in the period ahead, support prices could become more of a competitive problem, especially if they are frozen or raised in the 1995 farm bill.

Finally, pushing up commodity prices with government programs may simply wed U.S. farmers to the slowest growing segment of the world market—bulk commodities—while driving up costs of commodity inputs and hindering the industry's competitiveness in the fastest growing segment of the world market—consumer foods. Put another way, eliminating commodity programs may encourage U.S. farmers to shift to products with higher profit margins and brighter market prospects.

Acreage idling programs

Closely related to the commodity programs is the cropland that is idled under them.⁶ Under current law, farmers must generally idle a portion of their cropland acres in exchange for federal price supports. The amount of acreage that must be idled is set by the secretary of agriculture within fairly broad guidelines in the farm bill.

The problem is that idling U.S. cropland capacity may be unwise in the context of the world market that lies ahead. In a slowly growing market crowded with foreign competitors, reductions in U.S. acreage simply encourage production elsewhere in the world. That linkage was evident in world production patterns of the 1980s. Normally, the rationale for restricting U.S. production is to boost prices to U.S. farmers. If the market is growing moderately, though, especially for bulk commodities, reductions in the United States may provide only a small boost to U.S. crop prices, especially if U.S. production cutbacks are matched by increases in other countries. Finally, cutting back U.S. crop production also throttles the use of U.S. grain handling capacity. This transportation and handling infrastructure may be one of the chief competitive assets of the United States in the world grain market. But the average costs of handling and shipping grain increase if a significant portion of the handling capacity lies idle due to cuts in U.S. production.

Market development policies

The United States has used a number of export promotion programs to help develop foreign markets for its farm products. In recent years, export credits and export subsidies have been the two main programs.⁷ Both programs may need to be rethought in light of U.S. export prospects.

Export credits. The United States has been spending more than \$5 billion a year on export credits in recent years. The question is whether these credits are flowing to countries that represent the best long-run markets for the United States. Roughly half the credits for fiscal 1992 were allocated to Russia, Ukraine, and other former Soviet republics. But these countries are unlikely to be strong long-term markets for U.S. agricultural exports. By contrast, Asia is a much more promising region for U.S. exports, although South Korea is the only Asian country to receive export credits. Clearly, export credits are influenced by both political and economic considerations. If the goal is to nurture new markets with significant long-term potential, however, a rebalancing of credits across regions may be necessary.

Export subsidies. Export subsidies have been a fact of life in world agricultural trade in recent years. Since the U.S. export recovery began in 1986, annual grain export subsidies in the EU have gone from \$2 billion to \$4 billion, while U.S. Export Enhancement Program (EEP) subsidies have increased from \$250 million to just under \$1 billion. In each case, every dollar of subsidy is attached to several dollars of trade—roughly \$2 for the EU and \$3 to \$4 for the United States. Thus, as much as \$12 billion a year in world grain sales—about a quarter of total world grain trade—are made with export subsidies attached.

Competing subsidies in Europe will come down under the final GATT agreement, but only gradually. While some will argue that EEP bonuses should be continued to offset EU export subsidies, the bigger question is whether such bonuses are effective in developing high-potential foreign

markets. In recent years, the majority of EEP bonuses have gone to North African and Middle Eastern countries, who are some of the biggest purchasers of U.S. wheat. While these countries generally have high population growth, their economic prospects are less bright than in some Asian and Latin American countries.

Another factor in considering the future of the EEP will be its impact across U.S. commodities. EEP bonuses are not distributed equally across U.S. agricultural exports. In fact, more than three-fourths of the bonuses are given for wheat, while none are spent on corn. In this case, the wheat bonuses have made wheat a price-competitive feedstuff for some foreign buyers, displacing corn exports in those markets.

As U.S. farmers and food companies try to export more consumer food products, a broader variety of market development programs may be needed. In particular, U.S. firms will benefit from improved information on what foreign consumers want to buy. Thus, new programs aimed at market research on foreign food markets may pay bigger dividends than some current market development programs.

CONCLUSIONS

As in the past, U.S. agriculture remains vitally dependent on selling its surplus on the world market. But the character of the world market has changed. Consumer food products are selling better than bulk commodities, historically the mainstay U.S. export. Moreover, the growth in the world market is shifting to areas where populations and incomes are growing rapidly—Asia and Latin America. Although U.S. sales are beginning to shift along with the overall market, additional shifts may be needed to take advantage of the best opportunities. Overall, food appears likely to be plentiful, holding the growth in U.S. exports below the boom rates of the 1970s but above the slow growth of the late 1980s.

To fully exploit the market opportunities ahead, U.S. agricultural policy needs to be re-evaluated during the debate on the 1985 farm bill. A great deal of attention has been paid in recent years to reducing agricultural subsidies around the world, but with the Uruguay Round now over, U.S. agriculture will benefit most from trade and economic policies that will boost incomes abroad. Commodity programs will be evaluated on many criteria in the upcoming farm bill debate. From the point of view of expanding foreign sales, their

usefulness is doubtful at best. Similarly, programs that idle U.S. cropland appear likely to be counterproductive in a world market where low-cost producers will hold the advantage. Finally, export promotion programs need to be re-evaluated in light of emerging market opportunities. Regions of the world that offer the best long-term growth prospects for U.S. agriculture are not receiving most of the dollars spent on export market development.

ENDNOTES

¹ In this analysis of agricultural export markets, the Pacific Rim countries include: Australia, Brunei, China, Hong Kong, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, and Thailand.

² Consumer products include fruits and vegetables, meats, snack and breakfast foods, and other processed food products. Intermediate products include such things as wheat flour, soybean meal and oil, and hides and skins. Bulk commodities are unprocessed products such as grains and oilseeds.

³ Minimum caloric requirements are typically met with the most readily available, domestically produced staple food, usually a starchy root crop like cassava or a cereal grain like rice. Mitchell and Ingco (1993) provide a more detailed account of income-induced shifts in diets.

⁴ In recent years, cereal grains accounted for nearly half of world cropland, by far the largest proportion of any crop.

⁵ The outlook is less bright for Africa, where incomes may not be adequate to enable consumers to purchase enough food in the world marketplace to make up for domestic production shortfalls (Mitchell and Ingco).

⁶ Another 36.5 million acres lie idle under the Conservation Reserve Program. Much of this land is highly erosive, and its future will depend more on environmental considerations than supply and demand considerations. Thus, it can be set aside for the purposes of this discussion.

⁷ Export credits are administered by the Foreign Agricultural Service (FAS) under the General Sales Manager (GSM) program. Export subsidies are administered by FAS under the Export Enhancement Program.

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