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The Case of U.S. Meat Exports

by

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After two decades of comparatively slow growth, world agricultural trade exploded in the 1970s. Although world trade in grains, oilseeds, and other bulk, low-value farm commodities (LVPs) grew rapidly, trade in high-value agricultural products (HVPs) grew even faster.[1] By 1980, world trade in HVPs passed $120 billion compared with the $110 billion traded in LVPs (USDA). Meats and meat products have been among the fastest growing components of world HVP trade.

The United States was successful in capturing almost two-thirds of the expansion in LVP trade during the 1970s, particularly that of grains and oilseeds (USDA). The increase in HVP trade, however, was captured by the EC and other developed countries. One study concludes that, despite having a more efficient processing industry, the United States struggled to maintain a 10 percent share of the growing world HVP trade (USDA).

By the mid-1980s, the United States was exporting over a quarter of the corn, nearly a third of the tobacco, over two-fifths of the soybeans, and over half the wheat, cotton and rice produced in this country (Table 1). In contrast, the United States exported less than 2 percent of the beef, about 2.5 percent of the pork, and a little over 5 percent of the chicken meat produced in this country (Table 2). At the same time, the United States currently exports only about 4 percent of the beef while accounting for nearly half the grain[2] traded in the world.

Why has the United States been relatively more successful in exporting low-value, bulk agricultural commodities like corn and soybeans than value-added food commodities like meat? Some economists have suggested that it is a simple question of economics; that is, the United States does not have a comparative advantage in meat. That answer, however, is quite unsatisfactory. If the same question had been posed about soybeans during the 1950s, those same economists might well have given the same answer and concluded that conducting research on the international distribution and market potential of U.S. soybeans would be an inefficient allocation of scarce research resources.

Nevertheless, the international distribution of U.S. meats and meat products faces a number of barriers. The seven most troublesome (in no particular order) include: 1) *protectionist policies* by importing countries and competing export suppliers that either restrict total imports or reduce the U.S. share of total imports, 2) *legal barriers* like health and sanitation laws that act as non-tariff barriers, 3) the relative *distance of the U.S. meat industry* from many of the faster growing international markets for meat, 4) *social factors and cultural differences* that affect meat consumption patterns in foreign countries, 5) the *paucity of processing skills and technology* in this country required to structure meat products with the physical characteristics most desired by foreign consumers that also conform to traditional food preparation and consumption practices, 6) an *export marketing intelligence quotient (I.Q.) deficiency* in this country, and 7) the usual concerns about *comparative advantage*, i.e., relative costs of production, as well as other economic forces that might impede U.S. meat exports.

Table 1

Average Share of U.S. Production Exported: Selected Crops, 1930-1985

Decades	Wheat	Cotton	Tobacco	Corn	Soybeans	Rice
	percent					
1930-39	8.4	50.9	31.4	1.6	6.7	16.6
1940-49	18.7	23.1	22.4	2.0	2.8	42.7
1950-59	35.9	35.7	23.6	4.5	16.3	49.6
1960-69	53.6	35.0	26.1	12.4	28.1	61.2
1970-79	58.1	41.2	36.7	24.4	38.3	58.9
1980-85	55.9	50.9	30.7	26.0	41.1	50.4

Source: USDA, *Agricultural Statistics*, various issues.

Table 2

Average Share of U.S. Production Exported: Meat, 1950-85

Decades	Beef	Pork	Chicken	Total Meats
	percent			
1950-59	0.6	1.2	1.5	0.9
1960-69	0.4	1.3	2.9	1.1
1970-79	0.7	2.2	3.5	1.7
1980-85	1.4	2.4	5.2	2.6

Source: USDA, *Agricultural Statistics*, various issues.

If U.S. meat exports are to achieve any significant increase over the next decade or so, research resources will have to be directed at analyzing the nature and extent of each barrier in each potential market and generating the information, technology, institutions, educational programs, and policy recommendations required to lift or circumvent the barriers that exist. Consequently, those barriers can be considered either as a justification for abandoning hope for greater U.S. involvement in world distribution of meat or as opportunities waiting to be discovered through research.

In this paper, I would like to set out the research agenda necessary to help boost the United States to a major role in world distribution of meats. The agenda takes the form of questions that define the researchable problems with respect to each of the seven major barriers to increased exports of U.S. meat. Much of what I will say applies equally as well to U.S. exports of other high-value commodities. Because the problems endemic to U.S. exports of meat and other higher value commodities defy disciplinary boundaries, the research agenda is multi-disciplinary in scope. Consequently, the search for meaningful solutions to those problems will require an interdisciplinary effort, a task at which most U.S. research institutions are not particularly experienced.

The Policy Barriers

The livestock industries and meat imports of some foreign countries like Taiwan are relatively free of controls (Gong and Williams). In most importing countries, however, such is not the case. In Japan and South Korea, for example, beef import quotas and price stabilization schemes affect both the level and variability of beef prices in both countries and reduce world beef trade (Shin and Williams; Williams). Country policies that directly and indirectly affect meat producer and consumer decisions distort world market signals and alter the worldwide pattern of meat production, consumption, and trade.

To what extent have the policies of meat importing countries reduced world meat trade and affected the U.S. share of the market? For those countries that restrict imports, are there alternative policies that could protect domestic producers while allowing increased consumption and imports of meat? What are the social costs involved in restricting meat imports and subsidizing production? What are the likely effects of liberalizing world meat markets through the current round of GATT negotiations? For example, what effects will the 1988 Beef Market Access Agreement have on the Japanese livestock industry and meat imports? Will the U.S. share of Japanese beef imports increase or decrease as a result of the new agreement? What

will be the effect on the hog, chicken, and feed industries in Japan and the United States? To what extent are the political forces in importing countries tied to the fortunes of the livestock industry?

To what extent do policies affecting feed grain imports in importing countries reduce their imports of meat? What is the direction and magnitude of the impact of the policies in importing countries that promote the expansion of the hog or chicken industries on beef production and imports? What are the meat policies of U.S. meat export competitors? How do these policies affect world prices and the U.S. share of foreign meat imports? To what extent does U.S. feed grain policy encourage or discourage U.S. exports of meat? What is the return to current U.S. meat export market development efforts in foreign markets? What is the optimal level and market allocation of meat export market development expenditures? The answers to these and other questions would lead to more informed policy decisions and more successful negotiations with importing countries that restrict meat imports.

The Legal Barriers

Although volumes have been written about the health and sanitation, quarantine, technical standards, and administrative regulations that affect the flow of beef into Japan, relatively less is known about such legal, non-tariff barriers to U.S. meat exports to other countries. To the extent that such regulations effectively impede meat imports by importing countries, efforts to reduce all other barriers will be relatively unsuccessful in generating exports. Research to provide information on the nature and effect of such non-tariff import barriers would assist in designing successful alternative meat export marketing, distribution, and negotiating strategies.

The Distance Barrier

The fastest growing international markets for meat are in the Pacific Rim area. The relatively greater distance of the United States than either Australia or New Zealand from rapidly growing Pacific Rim markets, however, presents at least two problems for U.S. meat exports to that area. First, the greater distance of the United States to the Pacific Rim suggests a greater transportation cost, and, therefore, relatively lower prices to U.S. meat exporters compared to those in Australia. What is the impact of current and alternative transportation rates, contracts, sizes of shipments, and transport services on U.S. exports of meat? What are the least-cost transportation arrangements for meat exports to these markets?

Second, U.S. exports of fresh, chilled meat to distant markets like the Pacific Rim may not be economically feasible because of a significant potential deterioration in the quality of the meat that occurs in transit. As a consequence, almost all U.S. meat is exported frozen in competition with fresh, chilled beef from other sources. What can be done to extend the shelf life of U.S. meat so that quality deterioration is less of a problem? Can improved handling and packaging techniques extend shelf life? What are the other factors that potentially affect the shelf life of meat and how can they be modified to improve the storability of U.S. meat? Are there any differences in the shelf life of U.S. meat compared to meat from our export competitors? Does irradiation hold any promise of extending shelf life and reducing the cost of transportation? Answers to these questions could effectively draw the United States closer to distant world meat markets.

The Social and Cultural Barriers

Besides prices and per capita income levels, a number of social and cultural factors affect the behavior of foreign meat consumers and hence, the level of foreign meat imports. Social factors include the demographic structure over time, contemporary occupational, educational, and labor force participation patterns, and the age-sex-size composition of households in importing countries. Cultural factors include regional, ethnic, or religious beliefs and practices that affect attitudes toward meat consumption. Other cultural factors include patterns of food planning, purchasing, and preparation in foreign households and attitudes and preferences regarding U.S. meat relative to meat produced domestically or in other exporting countries.

To what extent do these factors currently affect foreign meat consumption levels? How would economic projections of the future growth in foreign meat consumption and imports need to be modified to account for the influence of the relevant social and cultural factors? What are the key social and cultural factors affecting foreign meat markets and their implications for U.S. meat exports? What changes in the physical characteristics of U.S. meat would be required to respond to these factors and thereby compete more successfully with domestically produced beef? Research on these social and cultural issues must precede

successful U.S. efforts to break into foreign meat markets.

The Technology Barriers

Meat is consumed in many different forms in foreign countries than what is common in the United States. While roasts and steaks are common in the United States, oriental housewives, for example, rarely have ovens and are unaccustomed to roasting, broiling, or Western barbecuing. Meat is usually sliced thin and used in traditional dishes. What new technologies in both animal breeding and meat processing may be required in this country to produce and structure meat and meat products that conform to the traditional Taiwanese and South Korean lifestyles? Given the significant cultural, social, and economic factors that affect meat consumption abroad, what new meat products and related processing techniques might be developed to create growth markets overseas for U.S. meat? What characteristics of U.S. meat might need to be modified and what technologies or processes would need to be developed to make the quality, appearance, color, texture, flavor, etc., modifications that will allow it to compete more favorably with meat produced in the importing country or in export-competing countries? Unfortunately, relatively little research is being done in these areas.

The Export Marketing I.Q. Barrier

Many meat processors have not adequately explored the export potential of their products or are simply not familiar with the required export procedures. This is particularly the case for small- and medium-sized processors that may not have the resources or experience to invest in exporting or to research alternative export marketing strategies. At the same time, most U.S. agricultural producers have been content to simply produce and devote few resources to marketing. During periods of growing demand, such a strategy may be acceptable. During periods of declining demand, either at home or abroad, however, significant resources must be devoted to marketing in order to protect both market share and earnings.

In this connection, what are the mechanics of marketing meat internationally? What specific forms, regulations, and procedures are unique to the expanding foreign markets for meat? What are possible alternative strategies for marketing different types of meat products abroad? What is the appropriate decision-making framework within which a meat processor can determine its optimal involvement in the export process? What resources are available to assist potential exporters to break into foreign markets? What is the step-by-step process through which a potential meat exporter must go to sell meat products in foreign markets?

The Economic Barriers

If no other barriers existed, the United States might still not be able to export meat to foreign markets if it is a relatively high cost producer of beef. Determining the U.S. comparative advantage in meat, however, is difficult since the trade barriers that exist distort prices and make international comparisons of relative costs of production fairly meaningless. The relevant question to ask is: "What would be the pattern of trade in international meat markets in the absence of government policies and other barriers that distort market signals?" The answer to such a question would require a large model of the world meat market that would also address concerns about distortions in exchange rates, feed grain prices, and other such variables exogenous to international meat markets.

Another way of approaching the comparative advantage question is to ask whether there is a greater return to U.S. agriculture from producing and exporting feed grains or producing feed grains, feeding them to livestock, and then exporting the meat. Comparing the answers to that question given current market conditions and then under a free trade scenario would provide some indication of the U.S. comparative advantage in meat and suggest appropriate directions for policy and investments in U.S. agriculture.

It is important to note that the elasticities of substitution between U.S.-produced meats and that produced by foreign importing or export-competing countries are less than unity. For example, while the United States may not have a comparative advantage in grass-fed beef, as U.S. beef imports from Australia might suggest, the United States may have comparative advantage in grain-fed beef, as growing U.S. beef exports to the Pacific Rim might suggest. To the extent that foreign consumers prefer grain-fed to grass-fed beef, therefore, as is reportedly the case in Japan, the more likely are U.S. exports of beef to grow in line with general economic development in foreign countries. Thus, in considering the ability of the United States to compete in foreign meat markets, it is important to determine the degree of

substitutability between U.S. meat and the meat produced abroad.

Finally, to improve the efficiency of decision making in this country, intensive research is required to identify and measure the key parameters affecting behavior at all levels in the meat markets of the United States, U.S. export competitors, and importing countries. Among other things, this research must focus on the following topics for both meat exporting and importing countries: 1) measuring the direct-, cross-price, and income elasticities of meat demand, 2) determining livestock producer response to economic forces in the short and long runs, 3) quantifying livestock and meat policy response in each country to changes in market and general economic conditions, and 4) measuring the efficiency of the feed and livestock marketing and distribution systems.

Concluding Comments

The United States has not participated greatly in the rapid growth in world markets for value-added commodities that has occurred over the last decade. U.S. exports of meat in particular are small in comparison to both the volume of U.S. production and the level of world meat trade. Nevertheless, U.S. meat exports have been growing. U.S. beef, for example, which now accounts for about one-third of Japanese beef imports was less than 2 percent of those imports in 1970.

Future growth of U.S. meat exports, however, faces a number of barriers, only some of which are faced by U.S. meat export competitors. Nevertheless, it would be a serious mistake to conclude that those barriers will effectively preclude the United States from gaining a growing and significant share of world meat markets. The barriers can be reduced (or at least skirted) to some extent to allow greater access of U.S. meat into foreign markets. That will not happen, however, until the full extent and nature of the barriers are understood and the research is conducted to discover the means by which the barriers can be circumvented or dismantled. Failure to commit adequate funds to the necessary research would be an implicit decision to allow our export competitors to capture the value-added in exporting to those markets.

Finally, the need for an interdisciplinary research effort must be emphasized. No one discipline can competently address all of the issues raised here. In fact, many of the questions cannot even be addressed adequately by a single discipline. An appropriate research effort would draw on the expertise of agricultural economists, meat scientists, food technologists, microbiologists, sociologists, political scientists, international business specialists, and food nutritionists to name a few. Unfortunately, although these experts can all be found at major universities, the design of the research systems at most universities does not generally encourage them to work together. Even though some effort has been made to foster greater interdisciplinary work at U.S. universities, including the establishment of specially endowed research centers for that purpose, much more needs to be done. Generally speaking, U.S. universities remain a vast untapped resource for assisting in the internationalization of the U.S. meat and food industry.

Endnotes

[1]Low-value products include grains, oilseeds, rubber, tobacco, and cotton. High-value products are highly or semi-processed products plus eggs, fruits, nuts, and vegetables.

[2]Corn, sorghum, barley, rye, oats, wheat and rice.

References

Gong, S. and G. W. Williams, "The Taiwanese Livestock Industry: Economic Structure and Policy Interventions," MERC Working Paper No. WP3-86, Meat Export Research Center, Iowa State University, November, 1986.

Shin, Y. and G. W. Williams, "The South Korean Livestock Industry: Economic Structure and Policy Interventions," MERC Working Paper No. WP1-86, Meat Export Research Center, Iowa State University, June, 1986.

U.S. Department of Agriculture, *Agricultural Statistics*. Various issues.

U.S. Department of Agriculture, *High-Value Agricultural Exports: U.S. Opportunities in the 1980's*. Economic Research Service Foreign Agricultural Economic Report No. 188, September, 1983.

Williams, G. W., "Japanese Livestock Markets and Policy: Implications for U.S. Beef Exports," MERC Staff Report No. 7-85, Meat Research Center, Iowa State University, December, 1985.