

Domestic and Export Demand for Frozen Potatoes

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When potato production grows faster than demand, both prices and total revenue decline. To aid potato growers and processors in their production decision making, the University of Idaho conducted a study in 1991 to forecast the global demand for U.S. frozen potato products in the year 2000.



Based on domestic frozen potato consumption from 1970 to 1989 and export demand from 1978 through 1989, demand models were developed for four segments of the U.S. frozen potato market: the U.S. retail market, the U.S. food service market, the Japanese market, and the rest of the world.

The Retail Market

The U.S. frozen potato market is mostly a domestic market. In 1990, domestic consumption accounted for 93 percent of the total U.S. frozen potato production. The retail market for frozen potato products is relatively small, accounting for about 15 percent of the domestic market share.

The model found these variables to significantly impact frozen potato demand in the U.S. retail market:

- The retail price of frozen potato products,
- Consumer income,
- The price of hamburger,
- The price of fresh potatoes,
- The female labor force participation rate,
- The percentage of households owning microwave ovens, and
- Advertising.

From the model, we estimated that demand in the U.S. retail market will increase 4 percent, from 9.7 million hundredweight (cwt) in 1989 to 10.1 million cwt in the year 2000.

The Food Service Market

The food service market, or away-from-home food market, is growing in the United States, increasing from 34 percent of total food expenditures in 1970 to 47 percent in (fig.1). In the frozen potato market, the food service sector accounts for about 85 percent of domestic sales.

Variables found influencing the food service market were similar to those for the retail market: consumer income, the price of

hamburger, the price of fresh potatoes, the percentage of households using microwave ovens, and generic potato advertising. From the model, we forecasted that food service demand will increase 33 percent, from 48 million cwt in 1989 to 64 million cwt, in the year 2000.

The Japanese Market

Japan is the largest foreign market for U.S. agriculture. It is also the largest customer for the U.S. frozen potato industry. The U.S. share of the Japanese frozen

potato market increased from 28.5 percent in 1978 to 80 percent in 1991 (fig. 2). In 1990, U.S. exports of frozen potato products to Japan reached an all-time high of 112,274 metric tons, valued at \$81.5 million. Of these exports, approximately 86 percent were to the food service market, while the remaining 14 percent went to the retail market.

Three variables significantly impacted the Japanese demand for U.S. frozen potatoes: Japanese consumer income, U.S. export price, and the yen/dollar exchange

Fig. 1. Away-from-home food sales.

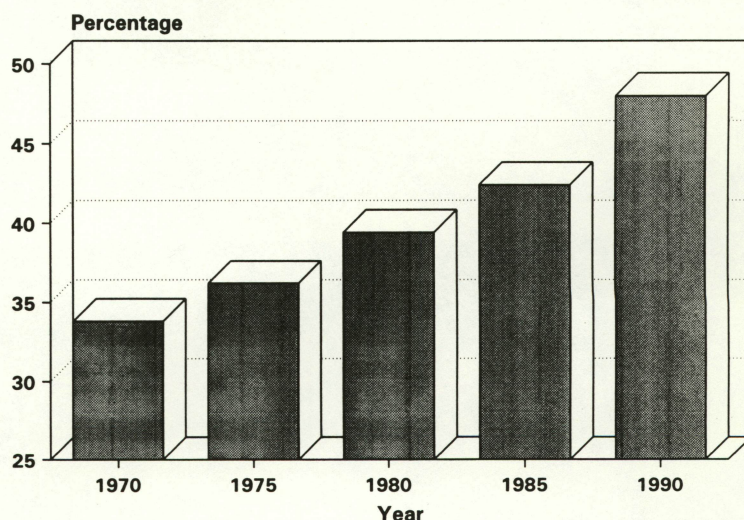
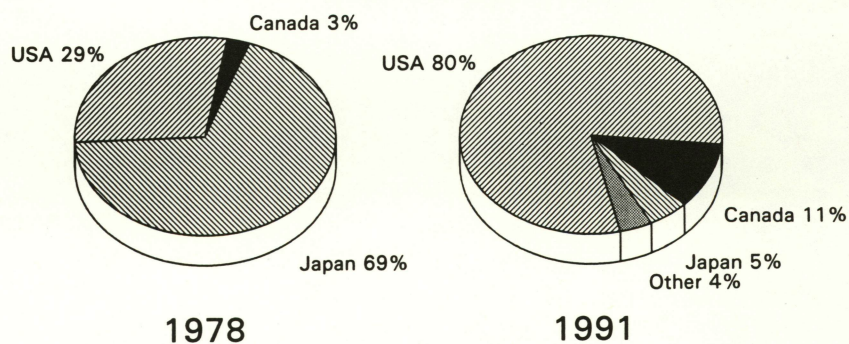


Fig. 2. Japan frozen potato market.



rate. Based on the model, projections show U.S. frozen potato exports to Japan will increase from 2.5 million cwt in 1989 to 3.2 million cwt in the year 2000, a 30 percent increase.

Demand From the Rest of the World

While the Japanese market has been leveling off, the import demand from the rest of the world shows a strong growth momentum (fig. 3). Accelerating demand from developing countries, primarily

Asia, boosted U.S. exports in the late 1970s and early 1980s. In fact, Asia replaced western Europe as the leading regional market for U.S. agricultural products in 1979. In 1990, U.S. frozen potato exports to Asia accounted for 81 percent of the total export market (fig. 4).

Next to Japan, Hong Kong, Singapore, and Taiwan lead the U.S. frozen potato export market. South Korea is another potential Asian market. These four newly industrialized countries are known as the Four Little Dragons; they are

small but economically powerful. Their economies have grown at the highest rates in the world the past few years. The growth in frozen potato exports to these Asian countries is due to their booming economies, a general trend toward western lifestyle, and the U.S. potato industry's promotion efforts.

Japan is a well-developed first tier market for U.S. frozen potato exports, and the Four Little Dragons make up the second tier. The other Asian Pacific Rim nations that recently began

Fig. 3. U.S. frozen potato exports.

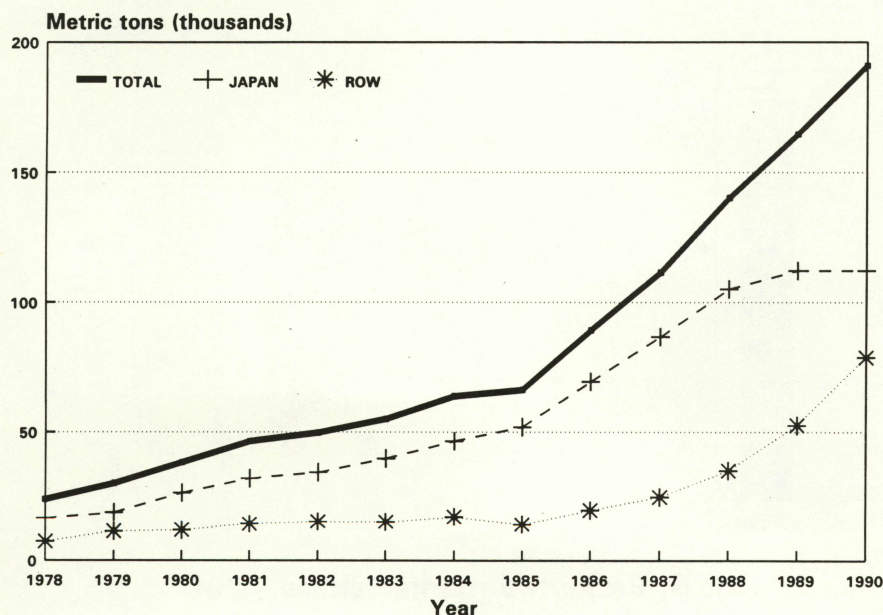
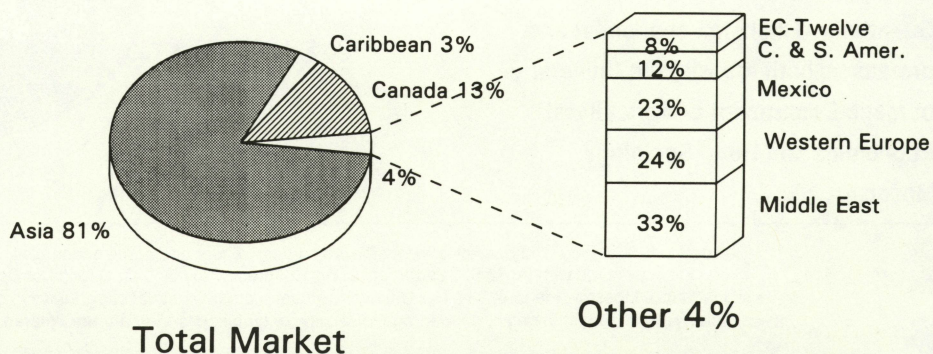


Fig. 4. U.S. frozen potato export share.



Japan is a well-developed first tier market for U.S. frozen potato exports, and the Four Little Dragons make up the second tier. The other Asian Pacific Rim nations that recently began importing frozen potatoes are the third tier. These countries include the Philippines, Malaysia, Indonesia, Thailand, and the People's Republic of China. They have development potential because they have features similar to the Four Little Dragons.

To assess the demand from the rest of the world, which has a small market share and includes numerous countries, the study

included a time trend analysis. Using the 1985 to 1989 trend, we forecasted frozen potato exports to the rest of the world to increase 264 percent, from 1.16 million cwt in 1989 to 4.22 million cwt in 2000.

Conclusions

Forecasts show the total demand for U.S. frozen potato products will reach 81.5 million cwt in the year 2000, a 33 percent increase from 1989 (fig. 5). The U.S. frozen potato market domestic consumption will still dominate, especially in the food service market. The foreign market will account for about 9 percent of total demand for

U.S. frozen potatoes compared to 7 percent in 1990. Figure 6 displays the projected frozen potato market share in year 2000.

Microwave oven ownership contributed to reduced frozen potato demand in the retail market. Apparently, consumers who own microwave ovens substitute fresh potatoes for frozen potatoes. The frozen potato products designed for the microwave have not been popular with consumers. If the industry develops a high-quality microwavable french fry, the retail demand may grow by more than the 4 percent forecasted in this study.

Fig. 5. Total frozen potato demand.

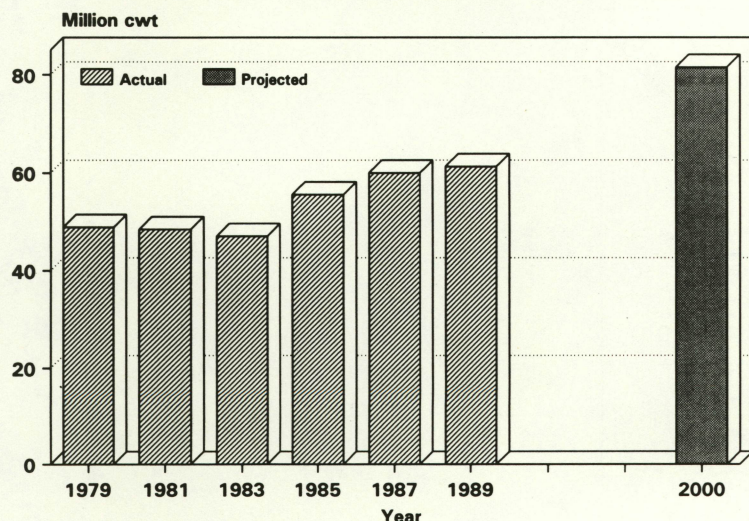
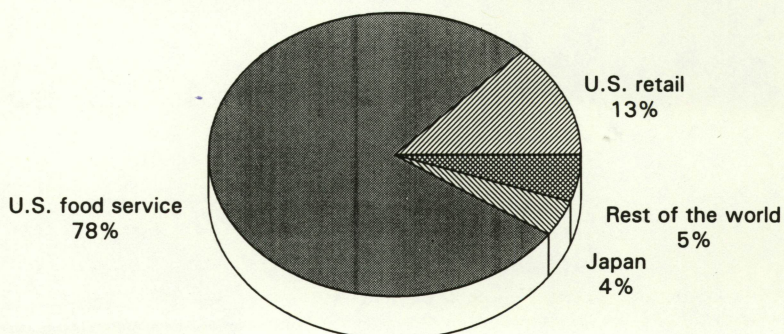


Fig. 6. Projected market share - 2000.



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