Agricultural Commodity Promotion Policies and Programs in the Global Agri-Food System

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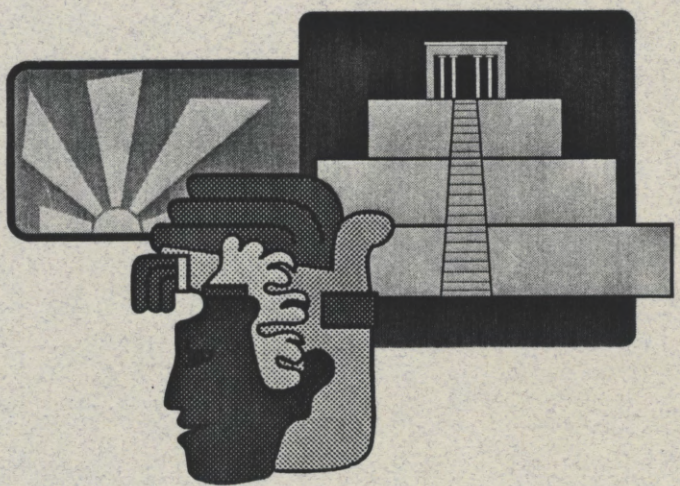

Impact of the Market Promotion Program on the U.S. Processed Fruit Industries

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Introduction

This paper presents research results from analyses of aggregate processed fruit exports by trading companies and processing firms, as well as firm-level export decisions of individual processing firms. The impacts of U.S. government export promotion, namely the Targeted Export Assistance program (TEA) and its successor, the Market Promotion Program (MPP), are highlighted. Regression results from a time-series of five processed fruit industries indicate that processors who handle exports themselves are far more likely than trading companies to maintain export levels over time. Generic MPP/TEA promotion expenditures are found to increase only indirect (trading company) exports, and indirect exports have a very limited effect on the quantity of future direct exports. These results indicate that efficient export enhancement policy should encourage direct exporting by food processors. Further analysis of direct exports at the firm level indicates that while smaller firms are less likely to become exporters, once begun, their commitment to exporting may be stronger than that of larger firms.

This research examines a different facet of generic export promotion than the majority of studies in this area (usually focusing on demand), and concentrates instead on the supply response to generic promotion with attention to industry and macroeconomic conditions. Within this context, we examine whether supply response is different between manufacturers and trading companies, and then look at whether firm-level differences between processors and economic conditions

impact the firm's decision both to become an exporter and to continue as an exporter.

Our overall goal in this paper is to examine which firm and industry characteristics affect export propensity and relate these results to the Market Promotion Program. In the first set of analyses, we differentiate between exports made by processors and those made by trading companies. Exports made by processors are generally referred to as direct exports while those made by trading companies are usually called indirect exports. This disaggregation of exports is undertaken to test the hypothesis that trading companies are less committed to exports of particular products than the processors who manufacture them. A related question is whether processors and trading companies respond differently to generic promotion. If the groups behave differently it may be more efficient to concentrate on the group which is most likely to achieve program goals.

Processed fruits provide a good category for a study of this type because they are well defined in export data, and the exported products have been consistent in quality over time. Exports from five industries are examined: canned peaches, canned pears, dried prunes, frozen blueberries, and frozen strawberries. These products were selected to represent a variety of technologies, industry structures, and levels of export activity. In addition, these groups can be clearly identified in the export data, and domestic market and matching production data can be easily obtained. Analysis is performed over a ten-year period covering the 1981/82 through 1990/91 marketing years. Explanatory variables at the industry and macro-economic level are included to account for the impact of such factors on exports.

Three of the five products in our study group received generic promotion through the MPP or TEA during the time period of the study. These generic promotions are handled by industry marketing associations, and do not feature particular brands. These promotions include international trade shows, and at the consumer level, foreign media advertising and point of sale activities.

Two sets of models are estimated. We first examine how export quantities are affected by current economic and industry conditions, and previous processing firm and trading company export levels as well as generic MPP/TEA export promotion expenditures (Industry Models). We then examine direct (processor) exports at the firm level, dividing processors into two groups for separate analysis (Firm-Level Analyses). The first group consists of nonexporters and first-time exporters, and we look at the factors which influence firms to become exporters. We then look at firms which already export and examine their decision to continue exporting. The same explanatory variables are used in both the export quantity and export decision models, with changes in the variables for product availability and variables for exporting experience. Differences in both the explanatory variables included and the expected impact of variables in the different models are discussed in subsequent sections of this paper. Table 1 presents a list of all dependent and independent variables, their definition, and construction. (See the Data Appendix for more information on the data and data sources.)

Industry Models

The primary variable used to examine export propensity in the direct export (processors) and indirect export (trading companies) models is lagged exports. With this approach we are interested in that part of export propensity related to the maintenance of exports from year to year. We are also interested in how exports from one group affect the future exports of the other. Thus both the direct exporter (DE) and indirect exporter (IE) equations contain variables of the lagged exports, DE1 and IE1, of both the groups.

The first set of the other variables expected to effect exports are market prices (XPDRP) and exchange rates (EXCHRATE). We include both in our model since uncertainties about the export price may make it difficult for exporters to calculate returns while exchange rates are more readily observed.

The price variable is a ratio of the foreign price to the domestic price and

is specified in this way because of the cross-industry aggregation. The ratio rises as each industry's average export price relative to its domestic price rises, making exporting more profitable. Exchange rates are a trade-weighted average of our principal foreign trade partners' currencies to the dollar as reported in the National Trade Data Bank. As the index rises, the value of the foreign price when exchanged into dollars becomes lower. Therefore, the expected impact of the exchange rate index is negative. This may also be viewed from the demand side. For example, if foreign buyers must pay for the product in U.S. dollars, a high value of the index makes purchases more expensive.

Three of the industries utilized the Market Promotion Program (or Targeted Export Assistance Program) for generic promotions (PROMO). Since promotions should enhance demand, exporters would be expected to respond with greater supply. Expenditures are allocated on a fiscal year basis, but implementation does not necessarily proceed immediately. In addition, a large part of the promotion expenditures go to trade shows which probably have a delayed impact. Since collinearity was evident when both fiscal and semi-lagged promotion variables are entered, the generic promotion expenditures are averaged. For example, the average of fiscal year 1985/86 and 1986/87 expenditures are matched to the 1986/87 marketing year.[1]

Industry structure has often been proposed to affect export propensity, though theorists disagree on the direction of the impact. In the aggregate analysis, industry structure is measured as the Hirschman-Herfindahl Index (HHI) for domestic retail sales. In addition, the size of the firm (in this case measured as the average firm employment (AVGFSIZE)) is often considered to increase export propensity. It has also been proposed that the relationship is nonlinear between medium-sized firms most likely to be exporters while large firms build foreign production facilities.

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[1]'Other allocations' variations were also examined, including a match of the fiscal year to the marketing year, and an additional lag.

A yield index (YLDIND) is included to reflect productivity changes that were evident in three of the industries as well as deviations from typical production. Since the industries vary quite a bit in size, the marketing year PACK (total industry production) is used to provide a base potential for exports.

The direct export and indirect export equations are thus estimated as a function of lagged direct exports (DE1), lagged indirect exports (IE1), export-domestic price ratio (XPDRP), exchange rates (EXCHRATE), TEA or MPP (PROMO) expenditures, market concentration (HHI), average firm size (AVGFSIZE), yield index (YLDIND), and industry production (PACK). The five industries are pooled in a single regression under the assumptions of the error components model permitting cross-section correlation and heteroscedasticity. Pooling the five industries allows us to differentiate between macroeconomic trends and industries which did and did not receive MPP/TEA funds.

Industry Level Results

Results for the processor and trading companies regressions are distinctly different. One of our primary hypotheses regarding differences in behavior between processing firms and trading companies is supported by the estimated coefficients on lagged exports. Lagged processor exports, DE1, has an estimated coefficient of 0.83 in the DE equation, while in the IE equation the coefficient on lagged indirect exports, IE1, is only 0.42. It is also noteworthy that the past export activity of processing companies has a strong positive effect on future trading company activity (0.48). In contrast, the coefficient of past trading company exports, IE1, in the DE equation, is only 0.04, which indicates that processing companies do not follow the lead of indirect exporters into export markets. It is also of interest that indirect export levels are higher the greater the PACK of the product in the industry, or alternatively this might be because excess production is generally exported by trading companies. The lower commitment of trading companies is also evidenced in the strong significant impact of exchange rates on export levels. It appears that indirect exporters are the most likely to view sales as an arbitrage

opportunity rather than development of a long-term market.

A somewhat surprising result is that processing companies do not increase exports due to generic promotions from the TEA/MPP programs though indirect exports do increase. This result in combination with the export commitment results indicates a problem in achieving the long term goals of the MPP to develop and expand markets for agricultural commodities via generic promotions. Since processing firms appear to be more committed to maintaining their export levels, they would seem to be the best target group for expanding exports. However, since the generic programs impact only the indirect exporters, and lagged indirect exports do not instigate future direct exports, these funds probably only have a temporary impact despite convincing evidence from a number of studies that they enhance demand.

Finally a word of caution, results for this type of analysis may be quite different for different types of products. For example, it would not be surprising to see quite different results for commodities, highly differentiated food categories, or fresh products.

Firm-Level Analyses of Direct Exporters

The strong indications that processors provide a steadier supply of exports leads us to a more specific look at processing firms. Our overall purpose is to find out what distinguishes the exporting processor. The analysis is broken into two groups: an export entry model and an export continuance model.

Entry Model

We first examine nonexporters and first-time exporters to see if any factors can be identified which lead to a firm becoming a direct exporter. In the entry model, we examine whether firm characteristics such as financial structure, size, or other export experience make a firm more or less likely to become an

exporter. Financial structure is measured via dummy variables for privately-owned (PRIVATE) or cooperatively-owned (COOP) firms, the default being a public firm. Other export experience cannot be comprehensively measured for this study. A factor we can assess is whether a firm has a parent company that exports. This information is entered as a dummy variable (PARENT).

Variables which indicate market conditions are the relevant variables seen in the aggregate models, the export-domestic price ratio and exchange rates (XPDRP, EXCHRATE), with the addition of lagged interest rates (LIRATE), which is expected to be considered if becoming an exporter requires investing in either facilities or marketing strategies. Also added is a variable reflecting yield variability (YLDVAR) which is included to examine the hypothesis of whether firms facing greater production uncertainty are less likely to become exporters. In addition, YLDIND from the aggregate models is replaced with YLDDEV, which is expected to represent shorter term information for the exporter and is more closely related to the individual firm decision. In addition, these individual firms may be in both the nonexporter/first-time exporter and the continuing exporter group over the period of the study.

The entry model is estimated in a probit regression. The results indicate that economic factors and industry conditions have only a small impact on the export entry decision of firms. This outcome may reflect a lack of knowledge on the part of first-time exporters. A somewhat surprising result, though not different from the aggregate analysis, is that the impact of the generic promotion program on direct exports by processors is negative. A number of explanations can be proposed for this outcome. One of these is that direct exporters are pre-empted by indirect exports, conceivably because as trading companies increase their domestic purchases for export, the interest of nonexporting processors in becoming direct exporters is reduced. The basic conclusion from our overall inability to predict entry is not too surprising. Surveys tend to identify very specific managerial perceptions which impact the decision to export. Another factor which must be considered is that many of the firms in the data set may never have considered

exporting as an option, and many of the variables included will thus be irrelevant.

Given this aspect, it is not surprising that the only variable which shows a definite impact on the entry decision is firm size. In general we expect this to proxy such things as the resources of the firm, but possibly it represents an increased chance of the firm being large enough so that at least one person in the organization has enough freedom from the daily grind to pursue his or her entrepreneurial spirit. It is interesting to note that small firms can and do become exporters: one firm in the data set with a labor force of five full-time employees became an exporter.

Export Continuance Model

Our second model examines continuing export activity. Many of the variables are the same but three which are more likely to be influential only in a firm's entry decision, PARENT, YLDVAR, and LIRATE, are eliminated. Two variables are added: the years of experience a firm has as an exporter (YRSEXP) and the level of export activity, measured as the number of shipments the firm made in the preceding year (LSHPMNTS). The maximum years of experience are three due to data limitations but this seems a fairly reasonable cut-off. The experience variable tests whether firms become more committed or more successful after a few years of exporting, while the shipments variable examines whether the extent of export involvement matters. In the continuance model, we are interested in whether a firm continues to export the product, and once again the model is estimated in a probit regression.

Continuance Model Results

Exchange rates are important to the decision to continue exporting, though the aggregate analysis did not obtain this effect for the direct exporters. An increase in yield seems, inexplicably, to lower the possibility of remaining an exporter. Greater yield may lead to more indirect export activity to export surplus possibly "crowding out" direct export shipments if foreign buyers shift to more attractively-

priced products from indirect exporters. Both the number of years exporting and the frequency of exporting raise the probability of a firm continuing to export. In an interesting contrast to the entry model, the size variable, though not significant, is in fact negative. This leads us to wonder whether firm size may decrease the probability that the firm will continue to export as large firms opt for the foreign direct investment made after some initial export experience.

Implications and Questions

It seems evident that small firms are more likely to need assistance in becoming exporters, but not necessarily in continuing to do so. While promotion programs have been directed to favor small firms under the MPP and the new program, these promotions have in the past been limited to firms with previous export experience. Assistance to first-time exporters or those with very limited export experience, may be a more productive use of funds in the longer term.

Exchange rates definitely had a much stronger impact on indirect exporters than processing firms, however our firm-level results indicate that the impact of exchange rates is more definite for the decision to continue to export than the one to begin. This result may be due to the greater experience of these firms in foreign marketing. A question worth asking is how firms handle exchange rates. Do they or don't they hedge anticipated sales in foreign currency? Do they require purchase in U.S. currency, and thus lose sales when the exchange rate doesn't favor the buyer?

A great many questions remain to be answered about export behavior. Our first set of regressions shows that behavioral differences between processing companies and trading companies may need to be considered in designing programs to enhance exports. Firm-level analysis does not indicate that external differences, such as financial structure, between processing firms have much to do with the decision to continue exporting or, with the exception of firm size, the decision or ability to become an exporter. There are no obvious answers from this approach to identifying firms which will be successful exporters.

One thing that appears clear, however, is that direct exporters exhibit greater commitment to export markets while indirect exporters are more likely to peddle the industry's surplus production. While selling excess abroad is helpful in raising domestic prices during bumper-crop years by getting product off the home market, it does little to expand the "total" market over the long run. It seems then, if the goal of export assistance is to increase industry employment, output, sales, and returns over time, such monies should be directed to firms more committed to specific overseas markets. These firms are more likely to be food processors than trading companies.

Data Appendix

Data for this type of study is of course difficult to gather and must be obtained from a number of sources. Firm-level overseas export data were obtained using the U.S. Port Import-Export Recording Service (PIERS) data set available from the *Journal of Commerce*. PIERS is a reliable source of overseas[2] export records that, when properly aggregated, is comparable to U.S. Census Bureau data. Among other things, PIERS provides the name of the company with title to the goods at the time of shipment and tons shipped.

An important reference for domestic variables in this study was the SAMI (Selling Areas Marketing, Inc.) archives which provided a basis from which to calculate a domestic price and a measure of industry structure. The SAMI Million Dollar Brand study provided annual U.S. dollar sales and sales volume for each category, from which average domestic retail prices were calculated[3]. Annual retail Hirschman-Herfindahl indices (HHI)[4] were created for each industry using total

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[2]Thus air shipments and overland shipments to Canada for example are not included.

[3]1990 prices are calculated form the SAMI Market Resume Reports.

[4]HHI is calculated as the sum total of each firm's squared market share of the domestic retail

(continued...)

market shares for all brands of each company identified. These were based on domestic retail market share data obtained from SAMI[5] Market Resume Reports.

Firm financial structure was determined using *Dun & Bradstreet's Million Dollar Dir., Ward's Business Dir., Dir. of U.S. Agricultural Coop. Exporters,* and *Dir. of U.S. Agricultural Cooperatives.* Industry pack data is national and yield data is either national or based on the leading producing state (USDA-CED).

A number of tedious steps must take place to turn the PIERS data into firm-level and aggregate data of processors and of other exporters. The issue of firm identification was a major task. The company names listed in the PIERS records and the brand names listed in the SAMI data were often ambiguous, misspelled, or misleading. Company and brand acquisitions, consolidations, and name changes also had to be accounted for. The primary operating nature of every company named as a shipper in the commodity-cleaned PIERS data sets and the processor of every brand in the SAMI reports was tediously explored using a variety of industry directories. Confronting these challenges requires a good understanding of the industries' markets and operating environment over the time series, the types of processed fruit products that each manufactures, and alternative ways that products and brands may be described. Exports were separated into two categories using the *Directory of the Canning, Freezing, Preserving Industries,* and the *Thomas Food Industry Register* as direct exporters (firms that process products in the selected category) and indirect exporters (trading companies and other firms that are not in the business of processing those products). Total direct (and indirect) export volume for each industry and marketing year was then obtained by adding the export volume of all shippers identified as a direct (indirect) exporter. An

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(...continued)
industry (not including private label shares).

[5]SAMI data on frozen blueberries is available only for the 1982-1989 marketing years, 1981/82 HHI and domestic price, in the denominator of XPDRP, is based on 1982. To expand the entire data set through 1990/91, 1990 HHI figures for each industry were applied.

estimate of the total direct and indirect overseas export volume for each industry and marketing year could then be obtained.

Finally, PIERS export data were extracted and cleaned so that observations included shipments of only the product in question. Shipment observations with ill-defined commodity descriptions or a mix of products were dropped. Therefore, the PIERS data provides a sample of total overseas exports for which volume measures are attributable only to one of the five specified product categories.

Table 1. Variables Used in Export Models

Variables	Name	Variable Description
Dependent Variables		
Direct exports (mt)	DE	Exports by processing firms (metric tons)
Indirect exports (mt)	IE	Exports by trading companies, etc. (metric tons)
Entry	ENTRY	Entry=1 if firm begins to export, 0=non-exporter
Continuance	CONTINUE	Continue=1 if firm continues to export, 0=exit
Industry Level and Macroeconomic Explanatory Variables		
Export history	DE1[i]	Lagged direct exports(mt)
	IE1[i]	Lagged indirect exports (mt)
	PARENT[c]	Dummy variable=1 if firm has exporting parent co. 0=Firm's parent co. doesn't export or no parent co.
	LSHPMNT[c]	Number of years of exp. (max=3)
	YRSEXP[c]	Total number of export shipments in previous year
Export price	XPDRP	Ratio of average export price to average domestic retail price
Dependent Variables		
Exchange rate	EXCHRATE	Index of the weighted average exchange value of the U.S. dollar
Interest rates	LIRATE[e]	Lagged prime interest rate *Statistical Abstract of the US*
Market promotion expenditures	PROMO	Generic export promotion expenditures of TEA or MPP program-real $1000

Table 1 (Continued).

Variables	Name	Variable Description
Industry and Firm Characteristics		
Industry concentration	HHI	Domestic retail Hirschman-Herfindahl Index (%)
Firm domestic market share	MKTSHR[f]	Current year domestic retail market share
Private	PRIVATE[f]	Dummy variable=1 if a privately-owned firm
Cooperative	COOP[f]	Dummy variable=1 if a cooperative
Average firm size	AVGFSIZE[i]	Average employment of firms in industry (in 1000s)
Firm size	FIRMSIZE[f]	Average employment of firm (in 1000s)
Yield index	YLDIND[i]	Ratio of domestic yield to 1978-79 base
Yield deviation	YLDDEV[f]	Current yield/4 year avg. yield
Dependent Variables		
Production uncertainty	YLDVAR[e]	Measure of the relative variability of the product's farm yield *over preceding 5 years*
Product availability	PACK[i]	Total domestic pack converted to metric tons

[i] Only in industry models.
[f] Only in firm-level.
[e] Only in entry model.
[c] Only in continue model; all export variables from PIERS.

Table 2. Results of Direct and Indirect Export Models

Dependent Variable	DE (Direct Exports)		IE (Indirect Exports)	
Independent Variables	Estimated Coef.	T-ratio	Estimated Coef.	T-ratio
DE1	0.828	-8.266	0.488	8.700
IE1	-0.041	-0.530	0.423	7.699
XPDRP	-200.950	-0.119	570.440	0.544
EXCHRATE	-673.560	-1.326	-3082.300	-7.780
PROMO	-0.154	-0.419	1.354	-5.709
HHI	0.596	-1.254	-0.612	-2.694
AVGFSIZE	174.700	-0.602	-543.040	-3.610
YLDIND	-64.032	-0.058	1204.200	2.00
PACK	-1.965	-0.393	7.916	2.411
CONSTANT	357.580	-0.225	3341.900	3.551
NxT=50(T=10)	$R^2 = .897$		$R^2 = .948$	

Table 3. Entry Model Probit Results and Marginal Effects

Variable	Hyp. Sign	Est. Chef.	Mean	Est. chef. ÷ std. err.	∂ P/∂ x
PARENT	(+)	-0.394	0.105	-1.22	-0.051
XPDRP	(+)	-0.592	0.439	-0.97	-0.051
EXCHRATE	(-)	-0.737	1.130	-1.42	-0.063
LIRATE	(-)	0.009	12.082	0.29	0.001
PROMO[a]	(+)	-0.202	0.542	-1.72	-0.017
HHI	(- /+)	0.458	0.126	0.51	0.039
MKTSHR	(- /+)	-0.856	0.007	-0.32	-0.074
PRIVATE	(+)	0.202	0.711	0.81	0.017
COOP	(- /+)	0.136	0.135	0.43	0.012
FIRMSIZE	(+)	0.021	1.705	3.22	0.002
YLDDEV	(+)	0.359	1.035	0.73	0.031
YLDVAR	(-)	-10.271	0.012	-1.02	-0.883
Constant		-1.116	1.000	-1.23	
n=679, Cragg-Uhler R^2=0.085, Likelihood Ratio (12 d.f.)= 21.5 [critical value χ^2 (12) = 21.03, α=0.05]					

[a]PROMO now in millions of dollars.

Table 4. Continue (or Exit) Model Probit Results and Marginal Effects

Variable	Hyp. Sign	Est. Coef..	Mean	Est. coef.. ÷ std.err.	∂ P/∂ x
YRSEXP	(+)	0.333	2.649	2.32	0.099
LSHPMNTS	(+)	0.022	55.295	2.96	0.007
XPDRP	(+)	0.755	0.451	1.03	0.225
EXCHRATE	(-)	-1.496	1.154	-2.72	-0.446
PROMO[a]	(+)	-0.019	0.665	-0.20	-0.003
HHI	(- /+)	0.265	0.208	0.33	0.079
PRIVATE	(+)	-0.104	0.622	-0.35	-0.031
COOP	(- /+)	-0.090	0.211	-0.25	-0.027
FIRMSIZE	(- /+)	-0.004	9.280	-1.03	-0.001
MKTSHR	(- /+)	0.376	-0.065	0.35	0.112
YLDDEV	(+)	-1.163	1.015	-2.26	-0.347
CONSTANT		2.256	1.000	2.20	
n=251, Cragg-Uhler R^2=0.328, Likelihood Ratio= 60.2 [critical value $\chi^2(11)$=19.68, α=0.05]					

[a]Promo now in millions of dollars.

References

Board of Governors of the Federal Reserve System, Monthly Weighted Average Exchange Value of the Dollar, *National Trade Data Bank,* Washington, DC, 1994.

The Directory of the Canning, Freezing, Preserving Industries, Edward E. Judge & Sons, Inc., Westminster, MD, 1992-93 and others.

Dun and Bradstreet Information Services, *Million Dollar Directory: America's Leading Public and Private Companies,* 1983-1992 issues. Bethlehem, PA: The Dun and Bradstreet Corporation.

Gale Research Inc., *Ward's Business Directory of U.S. Private and Public Firms.* 1984-1992 issues, New York, NY: International Thomson Publishing Co.

Journal of Commerce. *Port Import-Export Reporting Service Foodstuffs Data (PIERS),* New York, NY, 1980-1990.

Patterson, P.M. and P.C. Abbott. *An Evaluation of the PIERS Data for Use in Economic Analysis of U.S. Agricultural and Food Product Trade,* Organization and Performance of World Food Systems: NC-194, OP-28, Purdue University, West Lafayette, IN, 1991.

SAMI (Selling Area Markets, Inc.). *Million Dollar Brands,* Arbitron Product Tracking Services, The Arbitron Company, Chicago, IL, 1989.

SAMI (Selling Area Markets, Inc.) *Market Resume Reports,* Arbitron Product Tracking Services, The Arbitron Company, Chicago, IL, 1980-1990.

Thomas Publishing Co., *Thomas Food Industry Register,* New York, NY, 1990 and others.

US Bureau of the Census, *Statistical Abstract of the United States: 1991* (111th edition.) Washington, DC, 1991.

USDA-ACS, *Directory of Farmer Cooperatives.* ACS Service Report 22., Andrew Jermolowicz and Tracey Kennedy. Washington D.C.: United States Government Printing Office, 1989.

USDA-CED, *Fruit and Tree Nuts Situation and Outlook Yearbook,* Commodity Economics Division, Economic Research Service, TFS-266, U.S. Department of Agriculture, Washington, DC, 1993.

USDA-CTAB, *Foreign Agricultural Trade of the United States (FATUS), Calendar Year Supplement.* Commodity and Trade Analysis Branch, Economic Research Service, Washington, DC: U.S. Department of Agriculture, various years.

USDA-RDA, *Directory of U.S. Agricultural Cooperative Exporters.* Cooperative Services Report 21., Karen J. Spatz. Washington D.C.: United States Government Printing Office, 1994.