An Analysis of Export Market Strategies and Barriers Perceptions by U.S. Agricultural HVP Exporters

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ABSTRACT: This study identifies barriers perceived by agricultural exporters and examines how these perceptions influence use of export market strategies. Ordered logit models are used to estimate effects of perceived barriers and firm characteristics on export market strategies. The results from these models show that perceptions about import restrictions influence use of diversification of exports across products, competition influences use of competitive export pricing, and overseas product regulations affect product adaptation for export markets.

INTRODUCTION

In 1996 the trade balance for all U.S. goods was a negative 166.7 billion dollars, however the trade balance for foods, feeds, and beverages was a positive 19.8 billion dollars (U.S. Bureau of the Census, 1997). Much of this positive trade balance for foods, feeds, and beverages is due to the increasing exports of high value products (HVPs) (Greene, 1994). The United States Department of Agriculture divides agricultural products into two general/groups: bulk farm products and high value products (HVPs) (Greene, 1994). By the USDA definition, bulk farm products are raw commodities, such as grains and oilseeds

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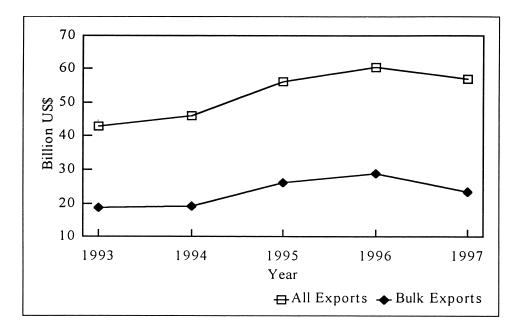
Figure 1.   U.S. total and bulk agricultural exports, 1993–1997.
Source: United States Department of Agriculture, U.S. Export/Import
Statistics for Bulk, Intermediate, and Consumer Oriented (BICO)
Foods and Beverages, USDA FAS Online, http;//www.fas.usda.gov/
scriptsw/bico/, December 10, 1998.

(i.e. wheat, corn, and rice) whereas, high value products include high value
unprocessed products (including fresh fruit, nuts vegetables, and honey), semi-
processed products (such as flour, vegetable oil, meats, cocoa, and sugar), and
highly processed products (including processed foods beverages beer, and wine).
With the growth in HVP exports relative to bulk commodities exports, in recent
years HVP exports have accounted for over half the value of U.S. agricultural
exports (See Figure 1). Despite the critical role HVPs play in the agricultural
export sector, little is known about the management practices these HVP firms
pursue in order to be successful exporters.

    One of the most important management decisions made by an exporting
agribusiness is selection of an export market strategy. Of course, the purpose of
developing an export market strategy is to overcome a perceived barrier to
exporting and attempt to optimize some objective function. Consequently,
whether a barrier is perceived as major or minor will influence the extent to which
a particular strategy is pursued by an agribusiness. Furthermore, firms of differing
sizes, levels of business and export experience, and commitment to exporting will

likely have varying ranges of abilities and willingness to implement export market strategies.

The purpose of this article is to obtain a better understanding of the relationship between alternative export market strategies and the potential barriers faced by HVP agricultural exporters. This goal is achieved by using a unique firm level data set developed in conjunction with the Foreign Agricultural Service (FAS) of the United States Department of Agriculture (USDA). the firms represented in this data set are all processors or sellers of high value, branded agricultural products under the USDA definition. With this data set, ordered logit models are used to estimate the relationship between the probability that a particular strategy is more likely to be used by a firm and the firm's perceptions on export barriers and its characteristics. Though little work has been conducted on export market strategies and barriers perceptions in the agricultural business literature much work has been conducted in this area in the general business literature. Based on this literature, and for comparative purposes, four export market strategies are considered: *diversification through selling multiple products*, *specially tailoring advertising and promotion to the export market*, *competitive pricing*, and *adapting products to the export market*. The barrier types considered are also based on the general business literature and include *import restrictions*, *buyer awareness in the export market*, *competition from other suppliers*, and *export country product regulations*. One of the main methodological differences between the analysis presented here and the literature that has come before is that none of the previous studies examine the relationship between market strategies and export barriers perceptions. Rather, in general, some studies looked at the relationship between export market strategies and firm characteristics and others examined the relationship between barriers perceptions and firm characteristics. the analysis presented here extends this literature by exploring the relationship between export market strategies, export barriers perceptions and other firm characteristics within a multiple regression framework.

The next section of this paper provides a brief literature review of export marketing and barriers perceptions studies. In the subsequent section, the method of analysis is presented and the data collection procedures discussed. The results are then presented and the paper closes with conclusions and implications for export marketing.

STUDIES OF EXPORT BARRIERS AND EXPORT MARKET STRATEGIES

As stated, most of the works on export barriers and export market strategies have been in the general business literature. Several key export barriers have been identified as important. A number of studies have found that regulatory barriers and import restrictions are problematic for exporting firms (Barker and Kaynak,

1992; Moini, 1997; Rabino, 1980). Financial and market risk barriers, such as lack of adequate market research or trade leads, exchange rate risk, or inability to obtain financing for export have also been cited as barriers to exporting (Barker and Kaynak, 1992; Moini, 1997; Rabino, 1980; Shoham and Albaum, 1995; Bauerschmidt, Sullivan, and Gillespie, 1985; Bodur, 1986; Cavusgil, 1984; Howard and Borgia, 1991; Katsikeas, 1994; Kedia and Chhokar, 1996). Other studies have found that the transportation costs can impede exports. Furthermore, export market competition from both domestic and foreign suppliers can be a barrier to exporting (Kedia and Chhokar, 1986; Dichtl, Koeglmayr, and Mueller, 1990; Naidu and Rao, 1993) and buyers' awareness or attitudes about the product in the foreign market can also inhibit exporting (Shoham and Albaum, 1995; Kedia and Chhokar, 1986). These studies, for the most part examined export barriers for firms across a wide range of industries or focus on non-agribusiness sectors. Only one study focused on Turkish exporters of food products (Bodur, 1986).

On the export marketing strategy side, several key strategies have been identified and associated with firm characteristics. A study by Katsikeas and Leonidou of market strategies used by exporting food manufacturing firms examined two types of strategies: market concentration and market spreading (Katsikeas and Leonidou, 1996). They defined an export market concentration strategy as one where a firm confines its export marketing to a single market, while export market spreading is when the firm diversifies its marketing efforts across multiple markets. Results from their study suggested that market spreaders tend to be larger firms and that national export policy had more influence on export spreaders in terms of maintaining these firms' commitment to exporting. Also, findings from Piercy and da Rocha et al. suggested that market spreaders tended to be more experienced and have higher export involvement than market concentrators (Piercy, 1981; da Rocha, Christensen, and daCunha, 1990). Because market spreaders may be less focused on gaining large market share in any one market, these firms focus on attaining sales across a variety of markets. The fact that past studies have found that market spreaders react to export market policy and elect to sell across multiple markets suggests that these firms may be influenced by in-country import restrictions that limit their market penetration in a given market.

Katsikeas and Leonidou's findings also suggested that exporters concentrating in a single market attempted to compete on the basis of price and tended to be smaller, less export experienced firms (Katsikeas and Leonidou, 1996). However, it should be noted, that a study by Cavusgil and Kirpalani which examined exporting success across firms from a variety of industries found no significant difference between small and large firms in exporting success through the use of comparable pricing (Cavusgil and Kirpalani, 1993). Also, when comparing successful versus ex-exporters, Christensen, et al. found that successful exporters

tended to be larger firms that focused on competitive pricing and did not expect risk premiums for exporting (Christensen, da Rocha, and Gertner, 1987). While the results from past studies regarding how size and export experience may influence the use of competitive pricing are mixed, competition from other suppliers will likely influence a firm's use of a competitive pricing strategy.

Findings from a study by Cavusgil showed that experimental exporters were less likely to modify their products for export than active or committed exporters (Cavusgil, 1984). Cavusgil and Kirpalani's study of small versus large firms found that larger firms were more likely to experience export success by changing their product position and adapting their products than were small firms (Cavusgil and Kirpalani, 1993). Findings from these studies would suggest that less product adaptation might be expected from less experienced, less export intense, smaller firms.

Cavusgil and Kirpalani also found that large exporters were more likely to have successfully increased exports by providing only low or moderate international promotional support (Cavusgil and Kirpalani, 1993). A study by Cavusgil showed that 41% of experimental exporters provided sales aids for distributors, while only 15% of committed exporters provided sales aids to distributors (Cavusgil, 1984). The results from their study suggested that while sporadic exporters believed they exercised more power using product and price elements, regular exporters used promotion and distribution elements to exercise power. These studies suggest that non-price promotion and advertising strategies were used more by larger, export committed firms than by smaller, sporadic exporters.

DATA AND METHOD OF ANALYSIS

The above literature was used as a guide to first identify export market strategies, export barriers, and firm characteristics that have been found important in the general business literature on export market strategies. The exporting strategies considered are *diversification through selling multiple products*, *specially tailoring advertising and promotion to the export market*, *competitive pricing*, and *adapting products to the export market*. The barrier types considered are *import restrictions*, *buyer awareness in the export market*, *competition from other suppliers*, and *export country product regulations*. The firm characteristics considered are *firm sales*, *export intensity*, *whether the firm is new to exporting*, *whether the firm has an international marketing department*, *years of business experience*, and *type of product sold*.

A survey was developed in conjunction with officials from the Foreign Agricultural Service (FAS) of the United States Department of Agriculture (USDA) and a focus group consisting of representatives from currently exporting, nonexporting, and previously exporting agribusiness firms. Once the survey was

completed, FAS records of participants in the 1993–1994 Market Participation Program (MPP)-branded portion were used as the population to survey.[1] All 764 participants in the 1993–94 USDA MPP-branded portion were surveyed. The MPP-branded portion participants were chosen for four reasons. First, all participants in the MPP-branded portion were active exporters. Second, all participants in the MPP-branded portion were HVP agricultural exporters (U.S. Federal Register, 1994). Third, by definition of being a participant in the MPP, these exporters had experienced some type of barrier to exporting. Fourth, FAS has been criticized by the General Accounting Office (GA)) for its lack of basic information on the firms that were participating in the MPP (U.S. General Accounting Office, 1993). Initially, the survey was mailed to 20 pre-test firms, who were asked for comments and suggestions regarding the questionnaire. No changes to the survey were necessary. The remaining 744 companies were sent the questionnaire in September 1995, using Dillman's method for mail surveys (Dillman, 1978). The non-respondents were notified with a reminder postcard. A second mailing was sent to nonrespondents approximately three weeks after the first, along with telephone reminders. Of the overall 764 mailed surveys, four were returned as undeliverable and usable responses totaled 230. Of these 230 surveys, 184 contained completed responses to all questions used in this analysis.

While limited information was available to compare the responding exporters with the general population of the U.S. exporters of HVPs, according to Massachusetts Institute for Social and Economic Research (MISER) estimates of exports by state-of-origin, about 30% of the value of exports of food and kindred products originated from the West, 39% were from the Southeast, 7% were from the Northeast, and 24% were from the Midwest (Massachusetts Institute for Social and Economic Research, 1997).[2] A comparison of the responding firms' share of sales from exports across regions showed that, on average, firms from the West and Northeast had lower export shares than firms from the Southeast. Therefore, the responding firms may be fairly representative in terms of regional values of exports.

Each respondent was asked to rate on a five-point likert scale the frequency of the use of the four market strategies (1 = always, 2 = often, 3 = sometimes, 4 = rarely, 5 = never). Each respondent was also asked to rate on a three-point likert scale the significance of four export barriers (1 = major barrier, 2 = minor barrier, 3 = not a barrier). The firm characteristics requested of each respondent were firm sales category, exports as a percent total sales (export intensity), whether the firm is new to exporting, whether the firm has an international marketing department, years of business experience, and type of product sold.

The frequency of use of the marketing strategy can be considered a choice variable within a random utility (profit) framework and the dependent variable with a regression context. The other variables would be the independent variables within a regression context. Because of the ordered nature of the dependent

variable (frequency of use) an ordered profit or logit specification is appropriate (Greene, 1993). The probability that a firm will use a strategy at the ith level is:

$$\text{Prob}(strat = i|X) = F(\alpha_i + \beta X) \qquad\qquad i = 1$$

$$F(\alpha_i + \beta X) - F(\alpha_{i-1} + \beta X) \quad 1 < i \le k$$

$$1 - F(\alpha_i + \beta X) \qquad\qquad i = k + 1$$

where F denotes the logistic distribution and X is the regressor matrix including export barrier perceptions, firm sales (considered a measure of size), export intensity, whether the firm is new to exporting, whether the firm has an international marketing department, years in business, and type of product sold. The α parameters represent the threshold values between each level of strategy use.

As is well known, the parameters within the ordered response model will provide no real indication of how the probability of the frequency of use of an export strategy will change as a regressor changes. These changes are captured by the marginal effects, which are

$$\frac{\partial \text{Prob}(strat = i)}{\partial X} = f(\alpha_i + \beta X)*\beta \qquad\qquad i = 1$$

$$\frac{\partial \text{Prob}(strat = i)}{\partial X} = [f(\alpha_i + \beta X) - f(\alpha_{i-1} + \beta X)]*\beta \quad 1 < i \le k$$

$$\frac{\partial \text{Prob}(strat = i)}{\partial X} = [1 - f(\alpha_i + \beta X)]*\beta \qquad\qquad i = k + 1$$

where *f* is the density function of the logistic distribution. The marginal effects indicate that only the two extreme categories will have signs in agreement with the parameter estimates.

Following the findings of the general business literature, and for comparative purposes, each strategy implemented is considered to be in response to a particular barrier and vary by firm characteristics. Thus the only difference in the regressor matrix **X** across strategies will be the barrier type, all other regressors will be the same. Diversification through selling multiple products is postulated to be designed to overcome import regulations in a given import market, as suggested by (Katsikeas and Leonidou, 1996). The study by Cavusgil and Kirpalani suggested that firms used competitive pricing as a market strategy to meet competition from other suppliers (Cavusgil and Kirpalani, 1993). Product adap-

tation is a strategy designed to gain greater access in those markets in which there are product regulations in the export market. Finally, if there are low buyer awareness problems in the importing market, a firm will likely pursue a more intensive advertising program tailored for that market.

RESULTS

The definitions of the variables used in the analysis and their respective means are provided in Table 1. For the export strategies, the means inicate that, averaged over all firms, the four export strategies listed are used between often and sometimes. For the export barriers, the means indicate that, on average, import restrictions are perceived as the most important barrier and product regulations as the least important barrier. Because dummy variables are used to measure the sales categories, new to export status, and presence of an international marketing department, the means associated with these variables represent the percentage of firms with these characteristics. The sales distribution is slightly skewed to the left, with 58.1% of the firms being in the top two categories and 41.9% being in the lower three categories. New to export firms constitute about 38.6% of the sample and 64.1% of the firms have an international marketing department. The average number of years in business is 35.6 and the average percent of sales going to export is 30.7. The product category means give the percentage of firms in each category. These categories are based on three digit SIC codes. The largest percentage of firms are in the residual category labeled 'All other foods' (35.5%), followed by 'Beverages' (25.5%). The category 'All other foods' includes items such as snack foods, seafood and fish products, coffee roasting, and food preparations manufacturing. The remaining categories have a rather even distribution of firms and constitute 39.0% of the firms.

The estimated ordered logit models for frequency of use of each of the strategies are presented in Table 2. As indicated by the log-likelihood ratio tests, each of the models is significant at the .01 probability level. The model for diversification of products (DIVPROD) correctly classifies 74.6% of the observations, while the model for specially tailored products (PROD) correctly classifies 72.7% of the observations. The model for specially tailored advertising (ADVERT) correctly classifies 65.9% of the observations and the model for competitive pricing (PRICE) correctly classifies 69.4% of the observations.

The signs of the estimated coefficients can only be interpreted for effects on the probability that a strategy will always be used or never be used. Therefore, marginal effects (for continuous independent variables) or changes in predicted probabilities (for discrete independent variables) are required to draw any further conclusions from the estimated models. Because some coefficients, and hence

Table 1. Variable Names, Definitions, and Means

Variable Names	Description	Unit of Measurement	Means
Export Strategies:			
DIVPROD	Diversification by exporting several different products	1 if always use, . . ., 5 if never use	2.0
PRICE	Competitive pricing relative to products in foreign markets	1 if always use, . . ., 5 if never use	2.2
ADVERT	Advertising/promotion tailored for exporting	1 if always use, . . ., 5 if never use	2.6
PROD	Specially tailored products for export markets	1 if always use, . . ., 5 if never use	2.6
Export Barriers:			
REST	Import restrictions in foreign markets	1 = major, 2 = minor, 3 = not a barrier	1.3
COMPETE	Competition from other suppliers	1 = major, 2 = minor, 3 = not a barrier	1.5
AWARE	Buyer's awareness of product in foreign market	1 = major, 2 = minor, 3 = not a barrier	1.5
REGUL	Product regulations in foreign markets	1 = major, 2 = minor, 3 = not a barrier	1.7
Firm Characteristics:			
SAL1	Total 1994 sales less than $250,000 (omitted category)	1 if sales in category, 0 otherwise	.120
SAL2	Total 1994 sales from $250,000 to $999,999	1 if sales in category, 0 otherwise	.103
SAL3	Total 1994 sales from $1,000,000 to $4,999,999	1 if sales in category, 0 otherwise	.196
SAL4	Total 1994 sales from $5,000,000 to $49,999,999	1 if sales in category, 0 otherwise	.326
SAL5	Total 1994 sales of $50,000,000 and greater	1 if sales in category, 0 otherwise	.255
NEWEXP	New-to-export firm	1 if exporting less than 5 years, 0 otherwise	.386
YRBUS	Years in business	number of years	35.6
EXINT	Export intensity	proportion of total sales from exports in 1994	.307
INTMKT	International marketing personnel or department	1 if firm has personnel or department, 0 otherwise	.641
S201	Meat products	1 if export product, 0 otherwise	.076
S202	Dairy products	1 if export product, 0 otherwise	.076
S203	Fruits and vegetables	1 if export product, 0 otherwise	.081
S204	Cereals and grain products	1 if export product, 0 otherwise	.076
S205	Bakery goods	1 if export product, 0 otherwise	.043
S206	Confectionery products	1 if export product, 0 otherwise	.038
S208	Beverages	1 if export product, 0 otherwise	.255
S209	All other foods and food preparations and products (omitted category)	1 if export product, 0 otherwise	.355

Table 2. Estimated Ordered Logistic Models of Export Market Strategies[a]

Explanatory Variable	Export Market Strategies			
	DIVPROD	PROD	ADVERT	PRICE
α_1	−2.6631***	−2.5548***	−3.5613***	−.1738
	(.7734)	(.7022)	(.7268)	(.7213)
α_2	−.8142	−.7006	−2.271***	1.5848**
	(.7523)	(.6751)	(.6970)	(.7281)
α_3	.6773	.7967	−.6244	3.1298***
	(.7598)	(.6788)	(.6811)	(.7601)
α_4	1.7762**	1.9721***	1.473**	4.8217***
	(.8017)	(.7061)	(.7505)	(.8533)
BARRIER	−.6885**	−.3658*	−.3391	−.7172***
	(.3196)	(.2200)	(.2125)	(.2285)
SAL2	.9172	−.7966	.8528	−.4706
	(.6269)	(.6080)	(.6104)	(.6241)
SAL3	1.1406**	.0921	.4684	−.9008*
	(.5330)	(.5180)	(.5148)	(.5361)
SAL4	1.3791***	.1461	.9497*	−1.2456**
	(.5011)	(.4831)	(.4810)	(.4999)
SAL5	1.1744**	−.4225	.6654	−.4879
	(.5338)	(.5112)	(.5102)	(.5231)
NEWEXP	−0.257	.1704	1.2535***	−.4022
	(.3234)	(.3146)	(.3263)	(.3168)
YRBUS	.0151***	.0065	.0134**	.00395
	(.0058)	(.0053)	(.0053)	(.0052)
EXINT	1.8301***	2.2869***	1.1724**	1.1822**
	(.5382)	(.5246)	(.4881)	(.5068)
INTMKT	1.1224***	.8714***	.8748***	.8275***
	(.3324)	(.3161)	(.3154)	(.3179)
S201	−.2998	1.3853**	−.0369	−.5372
	(.6289)	(.6238)	(.5812)	(.4845)
S202	−.065	.3078	−.9707*	.2700
	(.6071)	(.5888)	(.5858)	(.5905)
S203	−1.0076*	.2423	.0552	.4469
	(.5610)	(.5375)	(.5317)	(.5425)
S204	.3200	−.7264	.5188	−.5910
	(.6045)	(.5631)	(.5647)	(.5670)
S025	−.4188	.5103	.4060	−.4919
	(.7472)	(.7231)	(.7339)	(.7232)
S206	1.0145	−.8561	−.0701	−1.2398*
	(.8493)	(.7433)	(.7416)	(.7563)
S208	.4920	−.3243	.2668	.2906
	(.4040)	(.3892)	(.3848)	(.3946)
LLR Test (X^2)	63.844***	57.896***	35.85***	41.639***
Percent Correct Classifications	74.6	72.7	67.9	69.4

Notes: [a]*** = significant at α = .01, ** = significant at α = .05,* = significant at α = .10.

variables, are found to be insignificant the marginal effects or changes in predicted probabilities are not calculated for those variables.

The marginal effects of barrier perceptions, export intensity, and years in business are shown in Table 3. In general, as the perceptions of the barriers become less (more) major, the probability that a strategy is used frequently decreases (increases). Because the estimated coefficient on buyer awareness in the model for frequency of use specially tailored advertising is not significant, the

Table 3. Marginal Effects of Barrier Perceptions, Export Intensity, and Years in Business

	Marginal Effect on Probability that Export Market Strategy is Used				
Variable	Always	Often	Sometimes	Rarely	Never
Diversification of Exports Across Products					
Import Restrictions	−.1575	−.0105	.0744	.0674	.0262
Export Intensity	.4187	.0279	−.1979	−.1972	−.0696
Years in Business	.0034	.0023	−.0016	−.0015	−.0006
Specially Tailored Products					
In-Country Product Regulations	−.0467	−.0395	.0087	.0423	.0352
Export Intensity	.2917	.2470	−.0545	−.2642	−.2200
Years in Business	—	—	—	—	—
Specially Tailored Advertising					
Buyer Awareness	—	—	—	—	—
Export Intensity	.1753	.0534	.0413	−.1100	−.1601
Years in Business	.0020	.0006	.00047	−.0013	−.0018
Competitive Pricing					
Competition from Other Suppliers	−.1296	−.0434	.0381	.0794	.0555
Export Intensity	.2136	.0716	−.0628	−.1308	−.0916
Years in Business	—	—	—	—	—

marginal effect is not calculated. For each of the remaining barriers, as the perception of the barrier becomes less major, the probability that the corresponding strategy is always or often used decreases, while the probability that the strategy is used sometimes, rarely, or never increases.

The pattern of the marginal effects with respect to export intensity is consistent across strategies. As export intensity increases, the probabilities that each of the strategies are used more (less) frequently increases (decreases). For example, as export intensity increases, diversification across products, special tailoring of products, and competitive pricing become more likely to be used always or often and less likely to be used sometimes, rarely, or never. Use of specially tailored advertising becomes more likely to be used always, often, or sometimes and less likely to be used rarely or never.

The pattern of the marginal effects with respect to years in business is also consistent across strategies and similar to export intensity. As years in business increase, the probabilities that the strategies of diversification across products and specially tailored advertising are used more (less) frequently increases (decreases). With an increase in the years in business, the probability that diversification across products will be used always or often increases, and the probability that the strategy will be used sometimes, rarely, or never decreases. As years in business increase, the probability that specially tailored advertising will be used sometimes to always increases and the probability that the strategy will rarely or never be used decreases. Years in business do not significantly influence specially tailoring of products or use of competitive pricing.

Table 4 gives the change in the probability of frequency of use of a strategy

Table 4.   Change in Probability of Frequency of Use of Strategy Across
Sales Category

Variable	Change in Probability that Export Market Strategy is Used				
	Always	*Often*	*Sometimes*	*Rarely*	*Never*
	Diversification of Exports Across Products				
SAL3 Versus SAL1	.2125	.0317	−.1428	−.0621	−.0392
SAL4 Versus SAL1	.2700	.0114	−.1683	−.0695	−.0433
SAL5 Versus SAL1	.2205	.0293	−.1466	−.0633	−.0399
	Specially Tailored Advertising				
SAL3 Versus SAL1	—	—	—	—	—
SAL4 Versus SAL1	.1267	.0982	−.0614	−.1316	−.0319
SAL5 Versus SAL1	—	—	—	—	—
	Competitive Pricing				
SAL3 Versus SAL1	−.1862	.0020	.1164	.0533	.0145
SAL4 Versus SAL1	−.2380	−.0306	.1593	.0851	.0242
SAL5 Versus SAL1	—	—	—	—	—

across sales categories. These changes are calculated by taking the difference between the predicted probability for the SAL3, SAL4, and SAL5 categories and the base category SAL1, respectively. Because the coefficient on SAL2 is not significant in any of the models, the marginal effects are not calculated. As sales increase, the probability of using diversification of products more (less) frequently increases (decreases). When sales increase from SAL2 to SAL4, a similar pattern is found for the specially tailored advertising strategy. Neither the coefficient on SAL3 nor SAL5 is significant, hence the marginal effects are omitted. As sales increase from SAL1 to SAL3, the probability of always using competitive pricing decreases and the probabilities of using the strategy often, sometimes, rarely or never increase. As sales from SAL1 to SAL4, the probabilities using competitive pricing always or often decrease. The coefficient on SAL5 is not significant.

Table 5 gives the change in the probability of frequency of use of a strategy with respect to the existence of an international marketing department and new to export status. These changes in the probabilities are calculated in a similar fashion to those in Table 4. In general, the firms with an international marketing department are more likely to frequently use each of the export marketing strategies than firms without specialized departments. The new to export variable is only significant in the specially tailored advertising model. In this model, the probabilities of always and often specially tailoring advertising increase and the probabilities of sometimes, rarely, and never specially tailoring advertising decrease if firms are new exporters.

SUMMARY AND CONCLUSIONS

This study extends results from the general business literature regarding export barriers and export market strategies, to examine how firms' perceptions about

Table 5. Change in Probability of Frequency of Use of Strategy Across Presence of International Marketing Department and New-to-Export Status.

	Change in Probability that Export Market Strategy is Used				
Variable	*Always*	*Often*	*Sometimes*	*Rarely*	*Never*
	Diversification of Exports Across Products				
With Versus Without an International Marketing Department	.2400	−.0302	−.1341	−.0475	−.0281
New-to-Export versus Not New-to-Export	—	—	—	—	—
	Specially Tailored Products				
With Versus Without an International Marketing Department	.1027	.1117	−.0837	−.0769	−.0538
New-to-Export versus Not New-to-Export	—	—	—	—	—
	Specially Tailored Advertising				
With Versus Without an International Marketing Department	.1213	.0885	−.0641	−.1180	−.0276
New-to-Export versus Not New-to-Export	.2047	.0985	−.1246	−.1469	−.0317
	Competitive Pricing				
With Versus Without an International Marketing Department	.1402	.0533	−.1068	−.0669	−.0198
New-to-Export versus Not New-to-Export	—	—	—	—	—

barriers may influence the selection of a strategy. The results from this study suggest that how firms perceive the regulatory environment, including import restrictions and in-country product regulations can influence diversification and adaptation of products for foreign markets. Clearly, if a firm perceives import restrictions to be problematic and as limiting their market penetration for a given product, these firms may elect of diversify across a number of products as a marketing strategy. The results suggest that perceptions about import country production regulations or market requirements drive willingness to adapt products. Agribusiness firms exporting HVPs also appear to attempt to provide competitive prices in response to competition from other suppliers, suggesting that these firms do not necessarily view their product as niche or that they command risk premiums for exporting.

High levels of export intensity and presence of an international marketing department are indicative of commitment to exporting. Therefore, the results that as the export intensity of firms increases or if they have a specialized international marketing department, they pursue the export marketing strategies more frequently is not too surprising. These results are consistent with those of Piercy and da Rocha et al (Piercy, 1981; da Rocha, Christensen, and da Cunha, 1990).

Larger firms (as measured by sales) are more likely to diversify exports across a wider array of products. This result may reflect the fact that larger firms probably offer wider product lines than do many smaller firms. Moderately sized firms (as measured by sales) are less likely to compete based on price than smaller firms. These results are consistent with the results of Katsikeas and Leonidou, and

Cavusgil and Kirpalani, but contrary to that of Christensen et al. (Katsikeas and Leonidou, 1996; Cavusgil and Kirpalani, 1993; Christensen, da Rocha, and Geitner, 1987) Interestingly, however, the largest sized firms show no significant difference from the smallest firms. While moderately sized firms are less frequent users of competitive pricing, they are more likely to use specially tailored advertising than were small firms. Again, as with competitive pricing, the largest firms, show no significant difference from the smallest firms. These results tend to suggest that very large and very small firms may focus their export marketing efforts on price competition, rather than tailoring advertising, compared with moderately sized firms.

The number of years a firm has been in business can indicate an overall managemnt experience level. The results from this study indicate that exporters of HVPs with more years of business experience are more likely to diversify exports across products and to specially tailor advertising. One surprising finding is that new exporters are more likely to tailor their advertising to a market. However, this result could reflect the fact that specially tailored advertising may be more necessary in new product or new market introductions, where buyers are less familiar with the product or company.

From the overall agreement of the results found here with the general business literature on exporting, it would appear that the strategies employed by high value agricultural products exporters are similar to those employed by other exporters. Because of the overall agreement with findings of the general business literature, the results suggest that successful strategies in export marketing of high value agricultural products may be similar to those in general business. As the results indicate, different barriers to trade, not surprisingly, require different strategies. The results presented here can be useful in helping firms with specific character-istics and perceptions about barriers identify the marketing strategies employed by firms with similar characteristics and facing similar export barriers. However, given the sparse availability of firm level analysis of agricultural exports and information about exporters of high value products, more research needs to be done before strong conclusions can be drawn.

NOTES

1. The Market Promotion Program, now called the Market Access Program, is a promotion program administered by the USDA Foreign Agriculture Service. The program provides promotion assistance through cost sharing to eligible trade organizations that implement a foreign market development program (Federal Register). The program is facilitated through non-profit cooperators, including regional trade associations. Program funds go to promoting both generic and branded high value products, with about 40 percent of the program funds allocated to promotion of branded products.
2. The regions of the U.S. used in making these comparisons are West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY), Southeast (AL, AR, FL, GA, KY, LA, MS, NC, OK,

SC, TN, TX, VA), Northeast (CT, DE, ME, MA, MD, NH, NJ, NY, PA, RI, VT, WV, and Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI).

REFERENCES

Barker, T. & Kaynak 1992. "An Empirical Investigation of the Differences Between Initiating and Continuing Exporters." *European Journal of Marketing*, 26 (3):27–35.

Bauerschmidt, E. Sullivan, D. & Gillespie, K. 1985. "Common Factors Underlying Barriers to Export: Studies in the U.S. Paper Industry." *Journal of International Business Studies, 16*: 111–123.

Bodur, M. 1986. "A Study on the Nature and Intensity of Problems Experienced by Turkish Exporting Firms." *Advances in International Marketing*, 1, 205–232.

Cavusgil, T. 1984. "Differences in Exporting Firms Based on Their Degree of Internationalization." *Journal of Business Research*, 12:195–208.

Cavusgil, T. & Kirpalani, V. 1993. "Introducing Products into Export Markets: Success Factors." *Journal of Business Research*, 27:1–15.

Christen, C da Rocha, A. & Gernter, R. 1987. "An Empirical Investigation of the Factors Influencing Exporting Success of Brazilian Firms." *Journal of International Business Studies, 18*:61–77.

da Rocha, A. Christensen, C. & da Chunha, C. 1990. "Aggressive and Passive Exporters: A Study of the Brazilian Furniture Industry." *International Marketing Review* 7:6–15.

Dichtl, E. Koeglmayr, H. & Mueller, S. 1990. "International Orientation as a Precondition for Export Success." *Journal of International Business Studies*, 28 (1):23–40.

Dillman, D. 1978. *Mail & Telephone Surveys*. New York: MacMillian Publishing Company.

Greene, J. 1994. "High Value Food Products Boost Agricultural Exports." *Food Review*, 17 (3):18–22.

Greene, W. 1993. *Econometric*. New York: MacMillan Publishing Company.

Howard, D. & Borgia, D. 1991. "Exporting and Firm Size: Do Small Exporters Have Special Needs?" *Journal of Global Marketing*, 4 (1):79–97.

Kaleka, A. Piercy, N. & Katsikeas, C. 1997. "The Impact of Level of Company Export Development on Exercised Power in Relationships Between Manufacturers and Overseas Distributors." *Journal of Marketing Management*, 13:119–134.

Katsikeas, C. 1994. "Perceived Export Problems and Export Involvement: The Case of Greek Exporting Manufactures." *Journal of Global Marketing*, 7 (4):29–57.

Katsikeas, C. & Leonidou, L. 1996. "Export Market Expansion Strategy: Differences Between Market Concentration and Spreading." *Journal of Marketing Management*, 12:113–134.

Kedia, B. & Chhokar, J. 1986. Factors Inhibiting Export Performance of Firms: An Empirical Investigation. *Management International Review*, 24 (4):33–43.

Massachusetts Institute for Social and Economic Research (MISER). (1997). *Exports of Food and Kindred Products by State*, report provided by MISER.

Moini A. 1997. Barriers Inhibiting Export Performance of Small and Medium Sized Manufacturing Firms. *Journal of Global Marketing*, 10 (4):67–93.

Naidu, G. & Rao, T. 1993. "Public Sector Promotion of Exports: A Needs Based Approach." *Journal of Business Research*, 27, 85–101.

Piercy, N. "Export Marketing Management in Medium-sized British Firms." *European Journal of Marketing*, 17:48–67.

Rabino, S. 1980. "An Examination of Barriers to Exporting Encountered by Small Manufacturing Companies." *Management International Review*, 20 (2):67–73.

Shoham A. & Albaum G. 1995. "Reducing the Impact of Barriers to Exporting: A Managerial Perspective. *Journal of International Marketing*, 3 (4):85–105.

U.S. Bureau of the Census 1997. Report FT900 CB-97-66. Foreign Trade Division, February.

U.S. Federal Register. 1994. Market Promotion Program, Fiscal Year 1994. Announcement by Commodity Credit Corporation, USDA in *Federal Register*, 58 (11), 2591.

U.S. General Accounting Office 1993. International Trade: Changes Needed to Improve the Effectiveness of the Market Promotion Program. *Report to Congressional Requesters*, *GAO/GDD*-93-125.