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# THE IMPACT OF PERCEIVED BARRIERS TO EXPORT: AN ANALYSIS OF KENTUCKY AGRICULTURAL AND FOOD PROCESSING FIRMS

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## ABSTRACT OF THESIS

### THE IMPACT OF PERCEIVED BARRIERS TO EXPORT: AN ANALYSIS OF KENTUCKY AGRICULTURAL AND FOOD PROCESSING FIRMS

As intra-industry trade increases in U.S. agricultural and food processing industries, the historical agricultural trade surplus is tightening. In efforts to maintain the trade surplus a focus has shifted towards the promotion of agricultural and processed food exports among small and medium sized firms. This study intends to identify and evaluate the potential for exports among small to medium sized agricultural and food processing firms in Kentucky through a collection of survey data. The objectives of this thesis are to identify the state's product marketing opportunities and product specifications for international exports while identifying transaction requirements for potential exports. An analysis of the constraints and challenges faced by firms in the decision to export reveals rational behavior among small to medium agricultural and food processing firms in Kentucky.

Binary logistic regression analysis is used to identify the impact of firm characteristics, perceived marketing conditions and information constraints, and financial aspects on a firm's decision to export. A second logit regression analyzes the impact on a non-exporting firm's interest in international marketing opportunities. The lack of international market information, financial constraints, and risk are found to be significant factors in the decision to export and interest in foreign marketing.

**KEYWORDS:** International Marketing, Export Barrier, Agribusiness, Logistic Regression, Cross Tabulation

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THE IMPACT OF PERCEIVED BARRIERS TO EXPORT:  
AN ANALYSIS OF KENTUCKY AGRICULTURAL AND FOOD PROCESSING  
FIRMS

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THESIS

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The Graduate School  
University of Kentucky

2009

THE IMPACT OF PERCEIVED BARRIERS TO EXPORT:  
AN ANALYSIS OF KENTUCKY AGRICULTURAL AND FOOD PROCESSING  
FIRMS

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THESIS

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A thesis submitted in partial fulfillment of the  
requirements for the degree of Master of Science  
in the College of Agriculture at the University of Kentucky

By

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Lexington, KY

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2009

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# Chapter 1

## INTRODUCTION

### 1.1 International Trade Overview

The structure of the food and fiber industry has changed significantly in recent years as changes in technology have promoted globalization in the industry.

Technological advances in communication and transportation have reduced transaction costs, improving the ease of access to markets around the world. Consequently, international trade in agriculture increased first by 25% in the 1990s, followed by a significant global trade boom of 50% growth from 2000 to 2006. Over 60% of that growth is contributed to market access in developing countries (Gehlher and Dohlman, 2009). Overall, the United States operates in a trade balance deficit, yet agriculture has historically benefited from a trade surplus. In recent years, however, the agriculture and food processing industries have experienced more and more intra-industry trade: the simultaneous import and export of goods within an industry by one country (Henderson, 1996).

Increased intra-industry trade is tightening the agricultural trade balance, decreasing the agriculture and food processing trade surplus. The agricultural trade surplus fell from an unprecedented \$27.3 billion in 1996 to \$10.5 billion in 2003, with U.S. agricultural imports increasing by over \$13 billion in that time (Jerardo, 2004). In efforts to maintain the agricultural trade surplus among such growth in agricultural imports, a national focus has shifted towards export promotion and assistance programs in the industry.

The majority of U.S. agricultural exports are bulk agricultural commodities, specifically grains. In the 1970s and 1980s processed food exports grew, but then slowed

in the mid-1990s. In 2002, 6% of processed food sales were international, compared to 16% of bulk agricultural commodities. The U.S. processed food market is involved internationally mainly through foreign direct investment (FDI) rather than product exports; sales through FDI in 2002 were five times greater than export sales: \$150 billion and \$30 billion, respectively. FDI creates an outlet for firms to more effectively meet the needs of local consumer preferences (Regmi and Gehlher, 2005).

While larger food processing firms have the capacity to engage in foreign direct investment, smaller firms seeking internationalization often choose to become involved through exports. Exports are often the first step in a firm's global strategy, requiring less financial capital than other internationalization processes such as FDI. Intellectual capital such as business strategies, product innovation, and supportive public policy are becoming increasingly important as the foundation for international competitive advantage. Small firms can capitalize on human intellect assets and decision making abilities to gain a competitive edge in foreign markets (Henderson, *et al*, 1996). Recognizing changes in internationalization, Michael Porter, 1986, redefined global strategy as attempts by a firm to increase its global competitiveness through a mix of "configuration," the location where firm activity takes place, and "coordination," the way different activities in different countries are related (Aliber and Click, 1993). Improved technology has further facilitated global coordination along the value chain. Following this model, smaller food processing and agricultural U.S. firms could exploit larger firms' global competitiveness by participating in activities contributing to global coordination.

The current global recession raises question to the validity of a focus on export promotion. The United States agricultural exports reached a peak of over \$115 Billion in

FY 2008, but are projected to decline by almost \$20 Billion in 2009 due to the economic downturn. With bulk commodities leading U.S. agricultural exports, high world commodity prices were likely key to the recent peak in exports; however with the current economic situation the trend of continuously increasing exports has reached its end. In 2008, 65% of the U.S. agricultural export markets were developing countries, explaining the volatility of U.S. exports to economic downturns (Gehlher and Dohlman, 2009). While agricultural imports are still rising, the current economic situation has slowed that growth. As a result, total world trade is expected to decline by 6% in 2009. Credit constraints and exchange rate volatility have impacted global commerce the most during the current recession, increasing transaction costs of international sales and marketing. The trade slowdown is predicted to be short-term, however and is expected to return to a state of growth and sustainability by 2011(Gehlher and Dohlman, 2009). While exporting may not currently be a viable option for firms, this can serve as an appropriate time for international marketing research and planning.

## **1.2 Kentucky in the Global Marketplace**

At the state-level, Kentucky actively participates in the international marketplace. The state of Kentucky has attracted foreign direct investments (FDI), especially from Japan, and has successfully increased both its exports and its number of exporting firms. With 5.2% of total employment stemming from FDI, mostly in the manufacturing sector, Kentucky ranks above the national average, 4% of employment by FDI (Kentucky World Trade Center). Between 2000 and 2008, Kentucky's share of U.S. exports increased from 1.1 percent to 1.5 percent of national exports. Kentucky ranked 23<sup>rd</sup> among the 50 states in 2008 in total exports, with \$19.1 Billion in total exports to foreign countries; the

state ranks 9<sup>th</sup> out of the 50 states in exports per capita (Kentucky Cabinet for Economic Development, 2009). The majority, 96%, of Kentucky's exports is attributed to manufactured goods. Agricultural products accounted for 2%, \$296 million, in 2007 exports (Kentucky World Trade Center). Based on NAICS codes, some of the commonwealth's leading value-added food and agriculture products (i.e. distilled spirits) are included in the manufactured products statistics (Kentucky Cabinet for Economic Development, 2009).

Kentucky's foreign markets include 177 countries; Canada, France, Mexico, and Japan are the state's leading trade partners, respectively (Kentucky World Trade Center, 2009). The Commonwealth of Kentucky is among the leading states in agricultural exports of unmanufactured tobacco (rank: 2, \$331.2 Million), live animals and meat (rank: 8, \$382.6 Million), and poultry and products (rank: 10, \$122.9) for FY 2008 (Economic Research Service, 2008). While Kentucky is integrated into the world economy today and has greatly increased its exports and its number of exporting firms, the state still exports less than its potential. Fewer local businesses are exporting than the national average, especially in terms of value-added agricultural product export.

### **1.3 Project Rationale: Kentucky Agriculture**

Kentucky's gross state product (GSP) totaled \$156.45 Billion in 2008, a \$48 Billion increase from 2000. Agriculture contributed 1.5 percent of total gross state product, \$2,388 Million in 2008, a slight decrease from the industry's 1.8 percent gross state product in 2000 (Commonwealth of Kentucky, 2008). Using 2000 data, agricultural inputs, processing, and forestry (adding value to agriculture) contributed to 11% of gross state product; the economic impact increases to 16.4% of GSP when food retailing is

included (Kentucky Agricultural Development Board, 2001). The state's agricultural structure is made up of a large number of small farms. Kentucky's 83,000 farms rank the state fourth in the nation in number of farms; the average farm size is 163 acres (Kentucky Department of Agriculture, 2009).

The Tobacco Transition Payment Program, established in 2004 changed the structure of the Kentucky agricultural industry, where tobacco once dominated as the number one cash crop for the state. The Kentucky Agricultural Development Board was established in 2000 to assist tobacco-transitioning farmers and communities in finding markets, new opportunities, and means for adding value to agricultural products (Kentucky Governor's Office for Agricultural Policy, 2009). The state is now the leader in cattle production east of the Mississippi River (Kentucky Department of Agriculture, 2009). Kentucky value-added agricultural and food processing could achieve advantages from economies of scale and scope through globalization.

One of the main reasons a firm turns to international trade is to increase sales and profits by expanding the market for their products (Kentucky World Trade Center, 2009). Like other states, many of Kentucky's larger agricultural and rural firms have already turned to international marketing, thus the focus is encouraging exports among those small to medium sized agribusinesses and food processors. Agricultural exports benefit not only the firm, but also the community, creating jobs and increasing economic activity in supporting sectors. What's more, studies show that the export of value-added processed agricultural commodities has a greater economic impact than the export of bulk commodities in the U.S. (Edmondson, 2002). This thesis investigates the viability of



export promotion among Kentucky's small value-added producing farms and agri-food processors.

#### **1.4 National Export Strategy**

The Trade Promotion Coordinating Committee (TPCC) was formed by the Export Enhancement Act of 1992, ratified by the Clinton Administration to contribute to economic policy of that era. The TPCC consists of nineteen government agencies and is chaired by the Secretary of Commerce. The committee's plan for export promotion and financing programs is referred to as the "National Export Strategy," the first of which was identified in September 1993 (Morillo, 1994). The TPCC publishes the National Export Strategy annually, including a letter from the Secretary of Commerce, an overview of United States trade statistics, and descriptions of priorities for trade promotion, trade agreements, and more. The overall purpose of the strategy is to identify those companies that need assistance in export promotion, recognizing those needs, and directing companies towards agencies to meet those needs (Morillo, 1994). Export enhancement services accessible to businesses in the United States include export assistance centers, trade offices in all 50 states, some city and regional level trade alliances and associations, price reduction programs such as export enhancement programs, non-price promotion through market promotion programs and export incentive programs, and provision of commercial credit (Saxowsky, et al, 1998).

A recurring theme in the National Export Strategy from year to year has been the expansion of export enhancement strategies for small and medium-sized enterprises (SMEs). Export promotion for small to medium sized firms continues to be a priority since large firms account for the majority of exports. If the goal of the United States is to

enhance its export base, a higher contribution is needed from smaller to medium sized firms. Identifying the factors that determine a firm's decision to export thus, is important in targeting export promotion to smaller firms (2008 National Export Strategy, 2008).

In Kentucky, resources are available for agribusinesses seeking information regarding international marketing. The Kentucky Department of Agriculture has an import/export advisor who works to link producers with foreign buyers and provides firms with information about international marketing. Kentucky is a member of the Southern United States Trade Association (SUSTA), through which the commonwealth is able to market value-added agricultural and food products as a regional brand. SUSTA also offers financial assistance programs for small businesses launching export endeavors. The above-mentioned resources are affiliated with the United States Department of Agriculture Foreign Agricultural Service, the national agency responsible for foreign market development in agriculture. Kentucky Agricultural and Commercial Trade Offices are located in China and Mexico (Kentucky Department of Agriculture, 2009). Additionally, the Kentucky World Trade Center serves as a one-stop source of information for firms interested in exporting and foreign enterprises seeking opportunities for expansion in Kentucky (Kentucky World Trade Center, 2009).

### **1.5 Problem Statement**

Many of Kentucky's smaller agribusinesses and value-added food producers produce unique, differentiated products that could be marketable to foreign consumers. While several of Kentucky's large rural and agricultural firms, especially in the bourbon industry, have taken advantage of international opportunities, smaller firms are slower to expand their markets. Export by smaller firms will increase the competitiveness of

Kentucky in global agricultural markets, especially given the shift away from tobacco production and towards niche-market added value agri-food processing. This study investigates the feasibility for smaller agricultural and food processing firms to seek export markets based on firm decision-makers' perceptions of international marketing and constraints in the decision to export.

The resources for international sales and marketing are available to Kentucky agribusinesses. For those resources, including export promotion programs, to be efficient and effective, it is necessary to identify the constraints and challenges faced by Kentucky agricultural and rural firms in the decision to export. An evaluation of export promotion programs in the state is formed based on the results from a survey of Kentucky agribusinesses. This study gathers information on Kentucky agribusinesses of various sizes specializing in value-added products through a questionnaire investigating firm decision makers' perceptions of agricultural exporting needs and problems. The overall objectives of the research thesis are to identify and evaluate Kentucky value-added food and agricultural producers':

- Product marketing opportunities for international exports
- Product specifications for international exports
- Transaction requirements for potential international exports
- Constraints and challenges to the decision to export

The survey of agricultural and food processing firms in the Commonwealth of Kentucky addresses 1) knowledge gaps, 2) marketing conditions, 3) financial aspects of exporting and 4) needs as perceived by businesses in preparation for exports.

The survey data is empirically analyzed to determine factors contributing to a firm's decision to export its value-added product. A further investigation of non-exporting firms identifies and evaluates how perceptions affect the firm's initial interest in international marketing. The relevant factors in the analysis address perceived competitiveness, policy barriers, access to market information, overall perceptions of international markets, market conditions and market selection.

This study serves to inform academic researchers, government officials, and agribusiness and food processing firms about international marketing from the local level (targeting smaller firms). Findings from the survey of Kentucky value-added agriculture and food processors summarize the current status and potential of the Commonwealth's agribusiness sector in global markets. Analytical results from this thesis will identify factors that contribute to the decision to export, measuring the efficiency of promoting international marketing among small to medium agricultural and rural firms in Kentucky. The information presented throughout the study will be useful to those firms interested in exporting products, as well as to policymakers involved in the design of export promotion and assistance programs.

## **1.6 Organization of the Study**

This chapter has summarized background and statistics regarding the United States and furthermore Kentucky's international involvement in the agriculture and food processing industries. The objectives of this thesis research have also been identified. The following chapter presents additional background information through a literature review of relevant research. Chapter 3 describes the data collection process and presents a summary of responses. Chapter 4 introduces the econometric modeling used in the

study. Chapter 5 outlines the empirical results, followed by a discussion of those results. Chapter 6 concludes the study with a summary of the findings and recommendations for policymakers and further research.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Overall, trends in export research have appeared to evolve in stages over the last three decades (Smith and Bellew, 2005). During the first stage, described as “exploratory,” researchers investigated the motivation behind the decision to export, including the determinants of export activities. The following phase shifted to an emphasis on small-to-medium-sized enterprises (SMEs) and focused more on managerial attributes of the firm: attitudes, organizational resources, and product features. The last decade experienced advances in export research topics and methods and large sample research. Current export research in business and economics focuses on variables impacting decisions about the allocation of resources for a firm, including the impact of export enhancement programs (Smith and Bellew, 2005). The described phases, however, primarily encompass research on manufacturing firms’ export processes. Few studies pertaining to the agribusiness and food processing industries exist prior to the mid-1990s.

This chapter presents early research from international business literature regarding the determinants of the decision to export. The research includes studies on firm size, perceived risks, and motivation to export. The second group of literature reviewed focuses on export research concerning agricultural and rural firms. Those literary works are more relevant to this study and evaluate information gaps, firm decision makers’ perceptions, and firm size with respect to the decision to export agricultural products. The final group of literature emphasizes research on export

promotion and assistance programs, specifically measuring the effectiveness of those programs.

## **2.2 International Business Literature**

An early study in international business literature (Simpson and Kujewa, 1974) investigates first the initial incentive for firms to export, then the effect of perceptions of risks, costs, and benefits on the decision to begin exporting. Simpson and Kujewa (1974) categorize export motivation into two groups: “internal stimuli” and “external stimuli.” Internal stimuli encompass firm and product characteristics that would provoke a firm to export (i.e. firm capacity, profit motivation, seasonal products). External stimuli deal with outside, mostly government-oriented, factors motivating export decisions (i.e. trade shows, sales agents, and unsolicited foreign orders). In reference to “internal stimuli,” only 4% of exporters indicated export capacity as the initial reason for export. The most noted external stimulus was an unsolicited order from a foreign customer. The research found external stimulus is a significant but not sufficient condition for exporting. In other words, export stimuli alone do not instigate exporting; non-exporters and exporters alike were exposed to the same stimulus yet reacted differently. The authors interviewed exporting and non-exporting manufacturing firms in Tennessee to further identify factors affecting the decision to export. Analysis of those Tennessee firms revealed that exporters found international sales and marketing to be slightly riskier than domestic activity, while non-exporters’ perceived costs of international transactions affected the (negative) export decision (Simpson and Kujewa, 1974).

Preliminary reviews in international business literature grouped barriers to export as national export policy, comparative marketing distance, lack of export communication,

exogenous economic constraints, and competitive rivalry (Bauerschmidt, Sullivan, and Gillespie, 1985). Bauerschmidt, Sullivan, and Gillespie (1985) analyzed these clustered barriers as export inhibitors in the paper product industry. The study found evidence of the identified factors as export barriers during an examination of paper product manufacturing businesses. The research concluded the most significant barriers to be exchange rates and transportation costs.

A Greek study (Katsikeas and Morgan, 1993) investigates the perceived problems with exporting in respect to firm size and export market experience in terms of external, operational, internal, and informational problems. The authors hypothesized that smaller Greek manufacturing firms perceive more exporting problems than large firms and less experienced manufacturing firms perceive more problems than more experienced exporters. The research concluded smaller firms anticipate information and communication barriers to export markets, as well as product adaptation.

Researchers continue to investigate firm size as a barrier to exporting in current analyses. Mittlestaedt, Harben and Ward (2003) performs a cross-industry examination of firms to test whether firm size, defined by the number of employees, is a necessary and sufficient condition for exporting. The study suggests a size of 20 employees is the minimum necessary condition for exporting to meet the activity's fixed costs. Intuitively, the authors argue larger firms to have the advantage of economies of scale and the ability to meet global certified standards. A minimum firm size is found to be a necessary condition, but not a sufficient condition; larger size does not cause a firm to export.



### **2.3 Agricultural and Rural Firms Literature**

A Michigan study (Sterns, 1997) was among the first to investigate the export decision among smaller agribusinesses and food industry firms. Sterns (1997) investigates perceived demand, competitive advantages in product transformation costs, and competitive advantages in transaction costs as the key contributing factors to the export decision. The research investigates the decision as a dynamic model where firms make continuous choices about entering and exiting the international market. Choices are made in response to those perceived opportunities, where those transactions are subject to market forces, and generate a set of outcomes (or consequences). Sterns (1997) finds exporters and non-exporters to have different perceptions about export market potential and the ease of international activity. Geographic breadth of the U.S. market for a firm, firm size, and familiarity with exporting were all found to be positively correlated with the decision to export (Sterns, 1997). Overall Sterns concluded that strategic issues, not logistic ones act as barriers to international markets and perceptions about demand and competitiveness are the driving forces behind decisions to export (Sterns, 1997).

Byford and Henneberry (1996) sought to identify the characteristics of exporting and non-exporting firms and were especially concerned with the effect of the lack of managerial interest on export behavior. As with Simpson (1974), this study of Kansas, Missouri, and Oklahoma agribusinesses found a large portion of initial export activity to be provoked by unsolicited foreign orders. Byford and Henneberry (1996) did, in fact, find managerial attitudes towards foreign marketing to be significant and more influential than informational or resource barriers in the decision to export. In an evaluation of

export assistance programs and state agencies, the Midwest study suggests programs are not effective in overcoming the motivational barriers in order to recruit non-exporting firms into international activity.

While the fresh produce export market is slightly differentiated because of the more perishable product, export behavior and marketing activities are actually similar to those found in the manufacturing industry. Aksoy and Kaynak (1994) evaluated export behavior of fresh produce marketers. The study found firm's marketing management activities and also external factors such as geographic location and overseas support to be influential on fresh produce exports. Firm organization and ownership, as well as initial objectives and motivations for exporting are also found to be important in export behavior. Aksoy and Kaynak (1994) identify seven "marketing management components" for fresh produce marketers to succeed in international exporting as: product strategies, i.e., research and development, quality control, branding, pricing, marketing research, distribution and promotion. The authors also emphasize the importance of a firm's ability to respond and adjust to market signals.

A French analysis takes a slightly different approach to measuring the impact of managerial perceptions on exports. Ayouz and Remaud (2003) investigates the relationship between managerial perceptions of high product quality competitiveness and export activity for small agro-food firms in France. In addition to product quality competition the authors examine firm manager characteristics, firm characteristics, and the overall nature of the market in terms of development. The research concludes that there is a negative correlation between perceptions of high quality competitiveness and the decision to export; small agro-food firms are more engaged in exports if they have

low perceived levels of quality competitiveness. Age and standard education of the manager were significant in the decision to export also; younger, more highly trained managers were more likely to export.

## **2.4 Summary of Export Determinant Literature**

A few common themes occur among the international business and agribusiness literature reviewed. Discussions of firm size and managerial attitudes are presented across several studies. Perceptions differ across both exporters and non-exporters and small and large firms. The initial motivation for export is also important in literature evaluating the decision to export. Overall the literature suggests that strategic issues such as managerial characteristics and perceptions have more of an impact than logistic issues, such as firm size.

## **2.5 Export Promotion and Assistance Programs**

Identifying the factors that determine a firm's decision to export is important in order to target export promotion to appropriate firms and overcome the information barriers serving as export constraints (2008 National Export Strategy, 2008). Several studies have addressed the reduction of export inhibitions through information search or U.S. export promotion programs, both in international business and agribusiness literature (Byford and Henneberry, 1996, Smith and Bellew, 2005, Amponsah et al, 1996, Diamantopoulos et al, 1992, Saxowsky et al, 1998, Barringer et al, 1994).

### **2.5.1 Business and Economics Literature**

Diamantopoulos *et al* (1992) outlines the role of export promotion programs from the government's point of view as well as the firm perspective. On a national level,

assistance programs are intended to improve the trade balance by increasing domestic competitiveness on the global market. The firm uses export assistance and/or promotion programs for consultation on export problems and the programs encourage a pro-exporting attitude among firms. The study identifies awareness, attention, and expectations as constraints to the use of government export programs. The paper calls for research giving evidence that government support narrows export information gaps and facilitates export development in order to increase firms' awareness and consultation of the available government resources for exporting.

A review of North Carolina businesses in the environmental technology and services industry suggests a difference between economic-oriented and learning-oriented firms in the decision to export and the use of government programs. Burpitt and Rondinelli (1998) found that firms valuing experiential learning opportunities through exports more than economic concerns are more likely to positively view export activity. The authors recommend government programs to assist in decreasing economic uncertainties and risk and to promote exporting as a learning opportunity. To engage those firms which are more interested in economic benefit, the authors suggest designing the program to encourage emphasizing learning as a tool for better economic performance in the future. Also during the evaluation Burpitt and Rondinelli (1998) conclude that non-exporting firms are uninformed about initiating export activity and were either unaware of assistance programs or perceived high transaction costs of information gathering.

A more recent study, Smith and Bellew (2005) uses a quantitative approach to determine whether export promotion programs positively impact export performance in

Canada and the United States. Linear regressions evaluate the relationship between export promotion expenditures and total export sales. The results indicate a significant, positive relationship between programs and export performance, particularly in Canada. In a qualitative analysis, Smith and Bellew (2005) emphasize targeting program resources towards domestically operating firms which exhibit strong export potential.

Wilkinson and Brouthers (2006) investigate the effectiveness of export promotion, trade shows, trade missions, and program identifying agents and distributors on small-to-medium-sized enterprises' (SMEs) satisfaction with export promotion. A survey of firms at the state level collected firm-reported use of export promotion programs and their impact on export success. The study found identifying agents and distributors to positively impact export performance holding internal firm resources constant. Overall, Wilkinson and Brouthers (2006) found that those firms using state export promotion programs achieved greater export success. The study suggests state-supported promotion programs are an effective way to supplement firms' initial export strategies, especially for SMEs lacking the financial capacity to operate in foreign markets.

### **2.5.2 Agriculture and Food Processors**

Barringer, Wortman, and Macy (1994) and Saxowsky, Krause and Gustafon (1998) both address the reduction of export inhibitions for agribusinesses through planning and information search. The former identifies three causes of export inhibitions as managerial perceptions and attitudes, export risk, and export complexity. The authors suggest the first step to overcoming export constraints is to address managerial attitudes towards exporting. The study also suggests a lack of information and interest is

correlated with increased perceived riskiness. Barringer, Wortman, and Macy (1994) conclude that planning and information seeking will reduce those inhibitions found among small agribusiness firms. Saxowsky, Krause, and Gustafon (1998) observe trade barriers and tariffs to be the most important perceived export barriers among small and medium agricultural and rural firms. In this North Dakota study, most of the exporting firms did so because they were approached by a foreign buyer. Export planning was correlated with the firms' exporting experience; non-exporters did not actively seek to export and therefore neither planned nor searched for information about international marketing. Saxowsky et al (1998) suggest overcoming the information barriers about export documentation and foreign markets through use of the export assistance and enhancement programs.

Amponsah *et al* (1996) evaluates the use of export promotion programs among high-valued and processed food products in North Carolina. Size and export sales, while positively correlated with export promotion program use, were not significant variables in the study. Instead, positive perceptions about the programs and firm's growth affect a firm's use of export assistance. The study concludes that highlighting export promotion programs will succeed in encouraging current exporters to expand their activities. The authors suggest collaboration among regional export promotion programs, such as the Southern United States Trade Association, to improve educational and informational activities to promote exporting awareness.

## **2.6 Summary of Literature Reviewed**

Export promotion and assistance programs are designed to address firms' perceived problems with exporting. Research finds the unfamiliarity with such programs

to be a common problem among non-exporting firms. Some studies suggest planning and information seeking will improve managerial attitudes and perceptions towards exporting, yet export planning is found to be more common among more experienced exporting firms.

Diamantopoulos (1992) called for research on the effectiveness of export promotion programs. Three of the reviewed works meet the call for research, one comparing Canadian versus U.S. export program expenditures with respect to export sales, another reviewing the effectiveness of export promotion programs among North Carolina agribusinesses, and the most recent examining the effectiveness of export promotion services among small-to-medium sized enterprises. Smith and Bellew (2005) find more Canadian export expenditures and sales to be more significantly correlated than U.S. programs. Amponsah *et al* (1996) identified positive opinions about export promotion programs and firm's growth as evidence towards program efficiency, although some agribusinesses find export promotion programs to be inadequate and insufficient. Wilkinson and Brouthers (2006) find state-level export promotion programs especially trade shows and programs identifying trade agents increase the export success of SMEs.

The background and research presented so far sets a foundation for the next chapters, which present an analysis of the export potential of Kentucky agribusinesses. The data collection process and results are presented, followed by an empirical analysis of the research findings. The project is concluded with a summary of findings, conclusions, and recommendations for further research.

## **Chapter 3**

### **DATA**

#### **3.1 Questionnaire Design**

The primary data analyzed in this study stems from a sixty-question survey designed specifically for the research; the complete survey can be found in appendix 1. The questionnaire is divided into six sections: a) Overview of Firm b) Interest in Exporting c) International Experience d) Access to Information e) Market Conditions and f) Perceptions of International Markets. The questions cover firm product line, size, structure, market selection, the use of export assistance programs, experience and interest in exporting, and perceived barriers to expanding markets. After a few initial responses, the survey was revised to include questions about the firms' focus on agri-tourism, "buy local" campaigns, farmers markets, and online product sale. Several of the questions, especially in sections c) International Experience d) Access to Information e) Market Conditions and f) Perceptions of International Markets, are based on a five-point likert scale of agreement. There is a section at the end of the questionnaire for firm comments and also a section to indicate if they would like a copy of the research results.

#### **3.2 Data Collection Process**

The sample frame to represent the population of Kentucky agribusinesses and food processing firms for this study was compiled using online sources including the Kentucky Department of Agriculture "Kentucky Proud Store," Kentucky MarketMaker, and the Kentucky Cabinet for Economic Development "Kentucky Business and Industry Information System." In total, the list of potential businesses to survey included approximately 1500 firms of various size and product type within the agriculture and food processing industry. It is important to note that a selectivity bias is present in this



study, since the firms were not contacted at random; firm product type and some information about firm size was available prior to contact, therefore firms were contacted in an attempt to gather information from subsets of products within the industry. In retrospect, the sample size does not properly reflect the sample frame of selected Kentucky agribusinesses and food processors. The bias in the data is a major shortcoming of this research. For the sample to be unbiased and properly reflect the population a sampling interval should have been determined, in which random businesses were contacted based on the target sample, i.e. for a desired sample of 100 agribusinesses out of the list of 1500, a business should have been selected by choosing a random number from 1 to 15 and every 15<sup>th</sup> business contacted (Fowler, 2002).

A common problem encountered in the survey of small business owners is a low response rate for mail surveys (Dennis, 2003). In an attempt to increase our response rate and maintain a low research budget, the questionnaire for this study was administered online. For researchers, online surveys are advantageous in low administration costs and ease and speed of conducting the data collection process (Granello and Wheaton, 2004, Schmidt, 1997). Overall, for respondents electronic surveys are easier to complete and submit than written surveys. Complications with internet-based surveys include a bias towards internet-savvy respondents, problems due to the lack of internet access, internet browser problems, and incomplete or unacceptable responses (Schmidt, 1997). These problems are less of a problem, however, for business respondents.

Telecommunication was used to address the limitations faced during web-administered surveys, as well as to increase the number of responses and establish a more personalized approach with respondents. Marketing representatives and/or firm-owners

of Kentucky agribusinesses and food processors were first telephoned to request their participation in the study. Upon consent, the questionnaire was emailed to the appropriate individual. During the first round of data collection, March-May, 2009, the survey was attached to an email in MS Word document format. Feedback from respondents revealed some unfamiliarity with email attachments, and some participants lacked the computer program. Therefore, during the second round of data collection, September-November, 2009, the questionnaire was administered using online survey software, SurveyMonkey.com. The survey was then sent as a link within the email rather than as an attachment. Throughout both rounds of data collection, some participants did ask for post mail or fax copies of the survey during the telephone conversation, and those requests were fulfilled.

On several occasions, the initial telephone conversation also served as a condensed interview or case study for the research. In several instances, businesses declined to participate due to a strict focus on local marketing strategies. Those firm owners stated a lack of interest in expanding their markets because their focus is on selling local products to local consumers. The “buy local, sell local” state agricultural campaign (Kentucky Proud) has received a lot of attention recently in the Commonwealth of Kentucky and smaller agribusinesses and food producers have taken it to heart. Other comments during the telephone process included firm size and capacity, “we’re too small to export,” and statements about the hard economic times; some firms are looking for ways to cut back and are not concerned with future expansion at this time. Some smaller firms admitted never having considered international marketing and agreed to participate. Throughout communication with the firm owners and marketing representatives, we

clarified that for the purpose of this study we valued their opinions and perspectives on international marketing equally, whether they were negative or positive.

A total of 340 agricultural firms and food processors were telephoned to request participation in the study; this figure includes all attempted telephone contact, as some messages and follow-up messages were left. Because the initial contact method was telephone, a major time constraint limited the number of firms contacted from the list of firms including approximately 1500 potential participants. While telephoning businesses to request participation in the study was intended to increase the response rate and add rapport with the firms, a second bias emerges from this method. Surveys were only sent to firms agreeing to participate, those firms who expressed an interest in the study. The firms who refused to participate due to a focus on local marketing, downsizing, etc...are not included in the response rate or the analysis. The results are biased towards firms with an interest in our research.

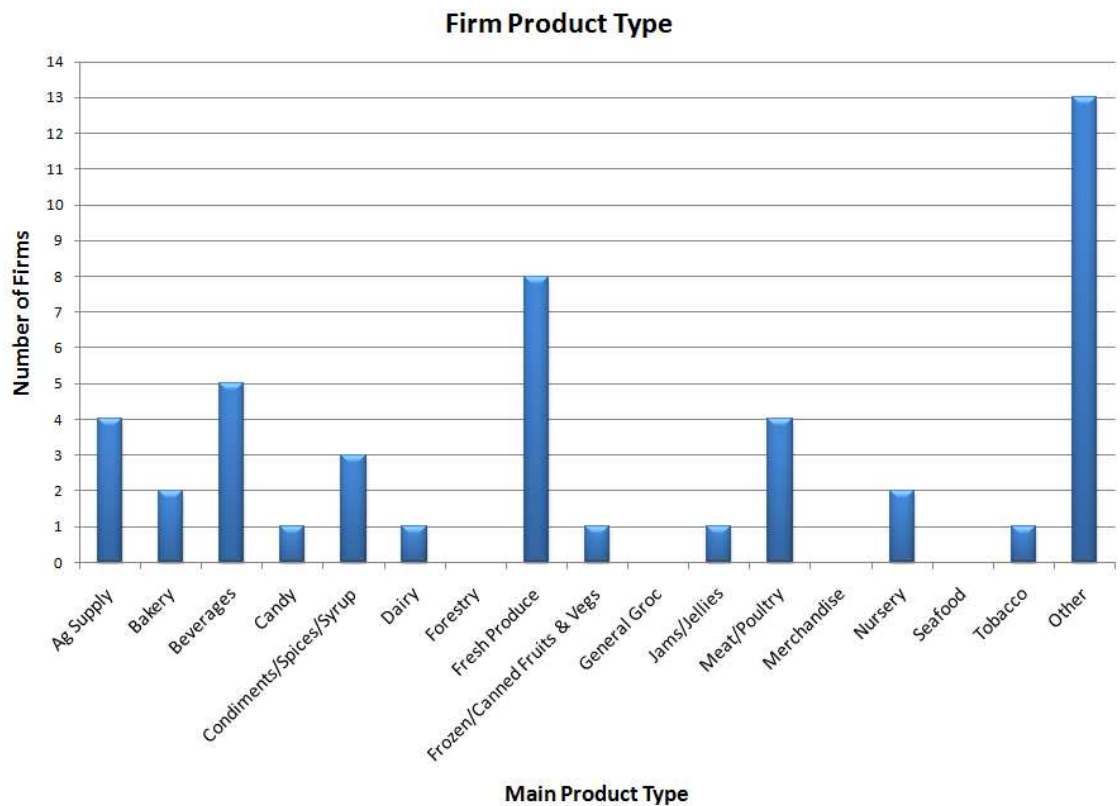
Of those 340 contacted, 159 firm owners and marketing representatives agreed to participate. The 181 firms not responding to the request for participation include those businesses focusing on local marketing strategies, downsizing and/or retiring, and firm decision makers with whom a minimum of two telephone messages were left but made no contact in response. While factors such as managerial time constraints are acknowledged, the majority of non-participating firms contacted can be summarized as firms who were not interested in the study and/or had no intentions toward international marketing. 159 surveys were sent electronically (with the occasional post mail correspondence), and 46 surveys were received, a response rate of 29%. This response

rate is above satisfactory for a questionnaire; however a bias is recognized since surveys were only mailed to businesses expressing prior intent to complete the questionnaire.

### **3.3 Summary of Responses**

The participating businesses varied in size, scope, and product. The idea was to capture a snapshot of Kentucky's food and fiber industry. Figure 3.1 shows the distribution of product type among respondents. Open-ended responses for the category "other" included manufactured animal feed and supplement, alpaca fiber products, garlic, honey, fats and oils, lumber, barrels, and organic herbs. When asked how the firm believes customers perceive its products, 54.5% said other firms offer similar products, but their product is slightly differentiated, 34.1% said their product was highly differentiated, and only 11.4% believe customers can easily substitute their products with others.

**Figure 3.1: Main Product Type of Participating Businesses**



The participating firms ranged in age from under 5 years to over 21 years of business. 40% of firms had been in business for over 21 years. As expected, most of the exporting firms are more experienced; of the exporting firms surveyed 71% have been in business over 21 years, one exporting firm is 15-20 years old and the remaining exporters have operated 10 years or less. Most of the firms are small firms, 70.5% have less than 25 employees (several stated being family owned and operated businesses) and 45.2% of participants reported gross sales of under \$100,000.

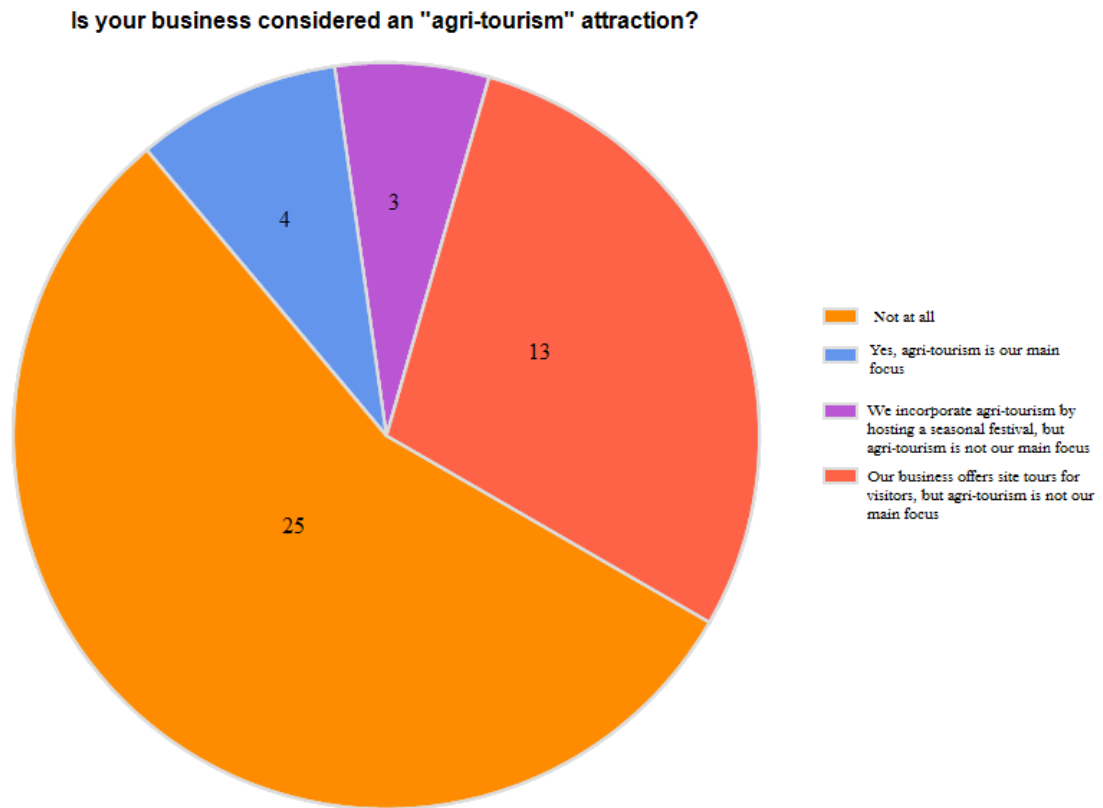
The majority, 78%, of firms surveyed do not have a special marketing division. This is probably correlated with firm size; because the participating firms are so small it is likely that they do not have the capacity to dedicate personnel to marketing. The

internet, however, does play a significant role in Kentucky agricultural marketing. 35 firms have a company website, 19 of which currently have their products available for sale online.

In response to the observed influence of the “buy local” phenomenon among the first businesses contacted, a few questions were added to the survey to gauge the impact of local marketing tactics. The results were actually not as compelling as expected. Six of the participating firms limit their focus to “ONLY local marketing on the farm or at farmer’s markets.” The agri-tourism influence on Kentucky is more interesting; several firms currently engage in some form of agri-tourism marketing, as shown in Figure 3.2. Most of those firms use agri-tourism as a supplementary marketing technique.

Also in the overview of the firm section, participants were asked about market selection and business characteristics on a five point likert scale of agreement where 1=strongly agree, 2=somewhat agree, 3=unsure, 4=somewhat disagree, 5=strongly disagree. The market selection questions revealed that firms are actively identifying and considering new marketing opportunities, and the availability of market information plays a large role in the decision to pursue a market (nearly 56% agreed). Growth in production capacity and sales volume are important to 75% of participating companies. Very interesting for the purpose of this study, 78% of participants, exporters and non-exporters alike, agreed that they view U.S. markets and international markets as separate and unique markets. One would infer that those companies approach domestic and foreign markets with different marketing strategies and with different motives.

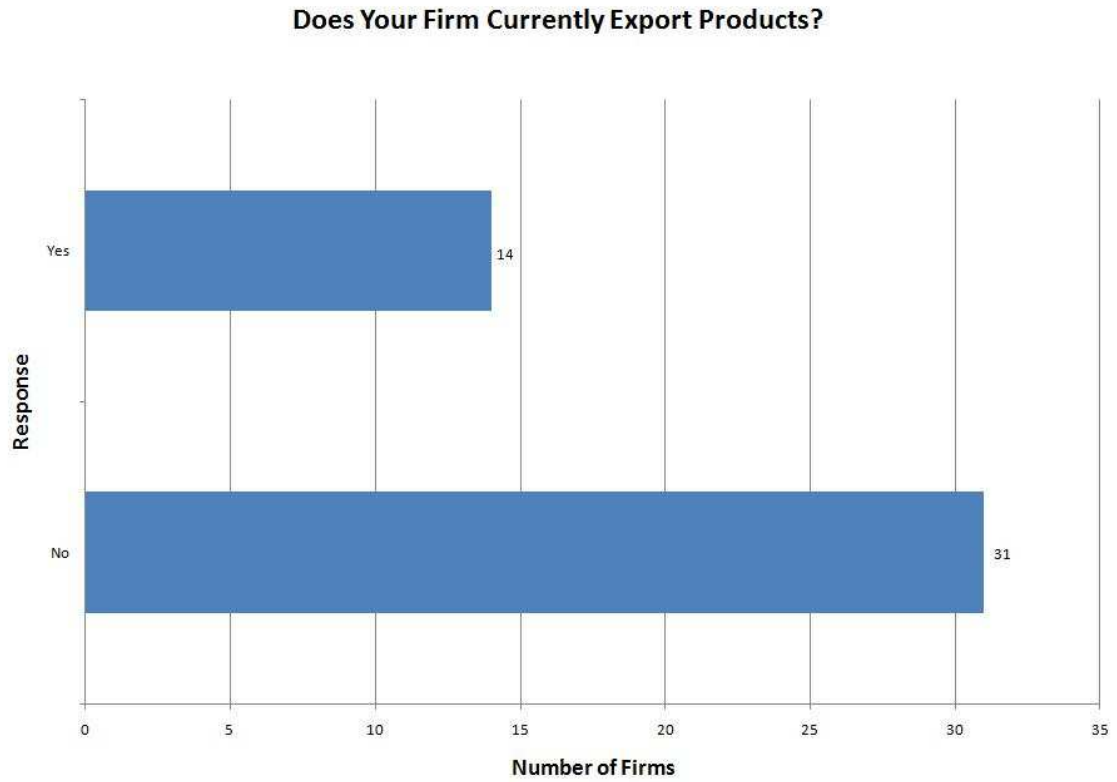
**Figure 3.2: Agri-tourism Activity among Participating Kentucky Firms**



There were no missing observations among the 45 responses in the question “Does your firm currently export products?” Of the 45 respondents, 14 businesses (31.1%) currently export their products and 4 firms previously exported but no longer do so. Ten of the exporting firms have been marketing internationally for more than ten years. Of the non-exporting firms, 62.5% have no interest in pursuing foreign markets, see figures 3.3 and 3.4. Twelve non-exporting firms answered “yes” to the question “Our firm is interested in pursuing international opportunities.” All non-exporting firms responded to the interest question, there were no missing observations. Initial hypotheses about Kentucky agricultural and rural firms predicted slightly higher interest in exporting opportunities among domestic firms. Such a strong negative response justifies a further

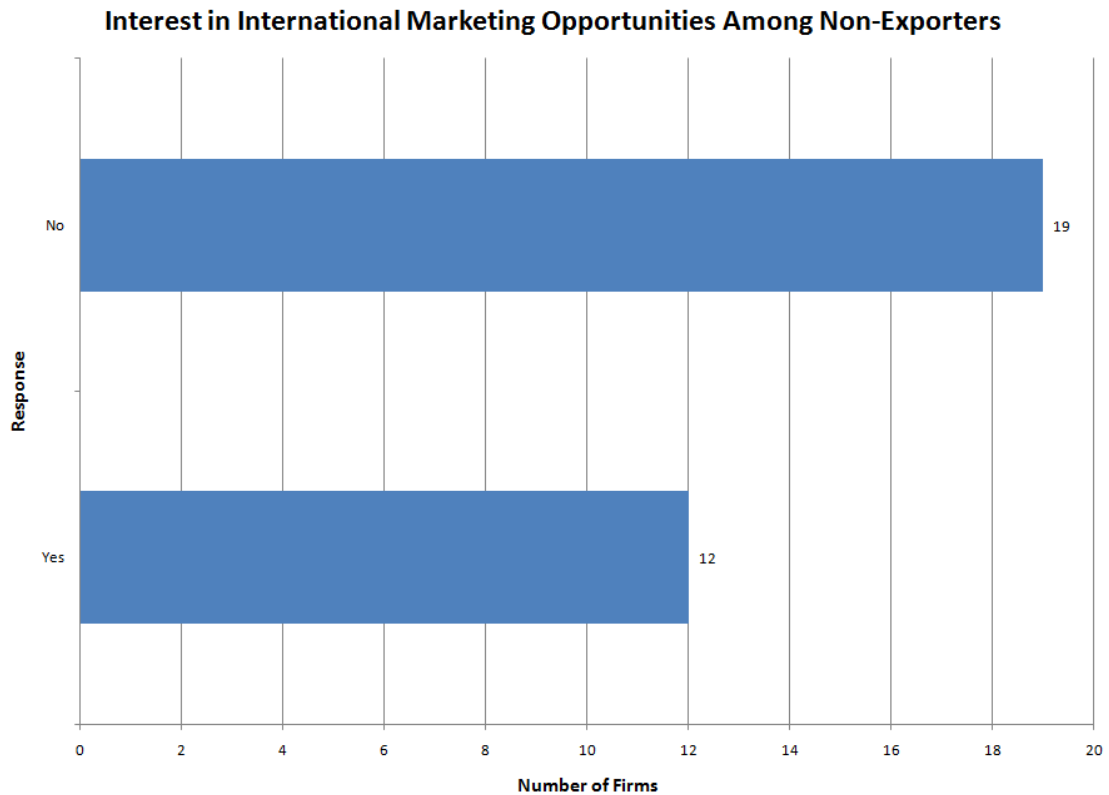
analysis of the determinants of a firm's interest in exporting, introduced in chapter 4 empirical modeling. Two firms indicated current evaluation of opportunities to begin global marketing.

**Figure 3.3: Exporting Firms**





**Figure 3.4: Firms Interested in Exporting**



Of the exporting firms, 50% said they decided to enter the market based on observed product demand in the foreign market. Almost 36% began exporting in response to sales proposals from international companies, no firm received a trade lead from a government source, and only 2 of the 14 exporting firms petitioned foreign companies for sales. When asked “Did you take advantage of government assistance in planning and implementing exporting strategies?” 64.3% answered “No.” The majority of those firms answered “these services were not useful” and one firm was unaware that those services exist. Of the firms who did use government assistance programs, the most commonly cited resource was the U.S. Department of Agriculture, followed by the Department of Commerce International Trade Association. Only one firm used the Kentucky Department of Agriculture as a resource for export planning and

implementation. Five firms used the internet in planning and implementing export strategies, four firms used a trade or industry association, four firms used private consultants, and one firm used banks.

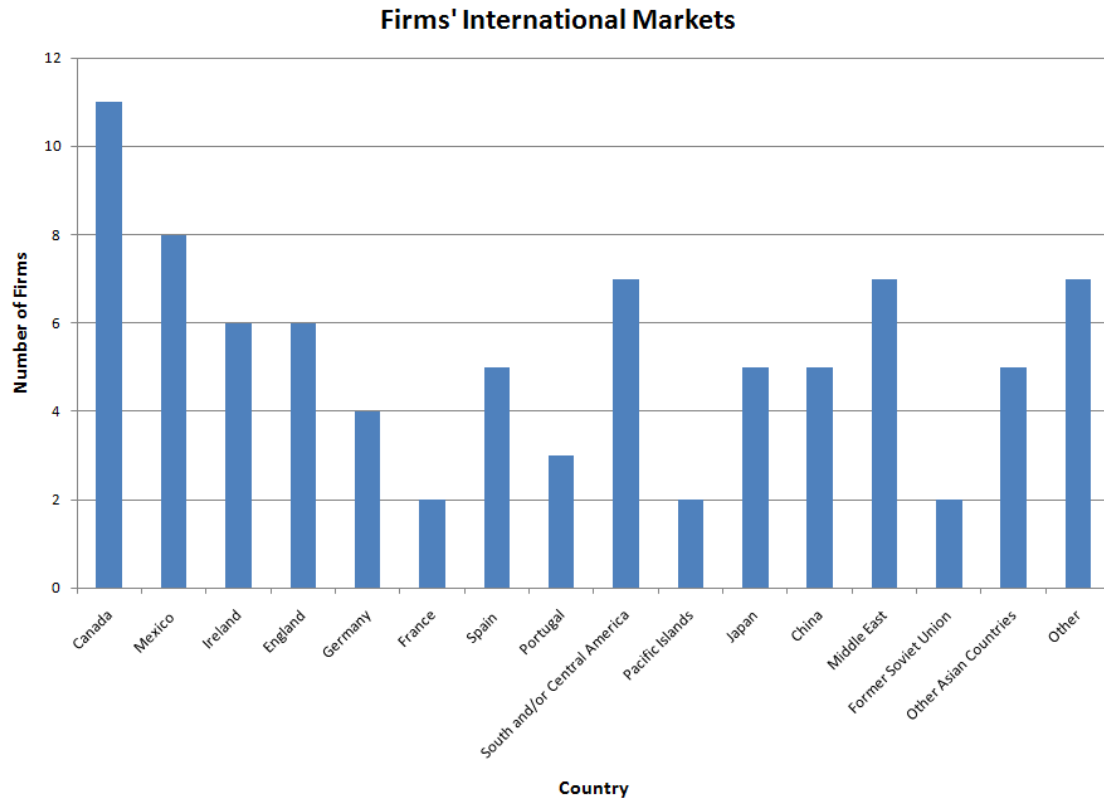
While 37.5% of firms expressed current interest in international marketing opportunities, that percentage increased to 46.9% when asked “If demand for our product existed on the international market, we would be interested in pursuing it,” and 45.2% when asked “If our company had competitive advantages on the international market we would pursue those markets.” Interest in pursuing international markets based on demand is consistent with the motivation reported by current exporters.

Formerly exporting firms most commonly cited high transportation costs and expensive exchange rates, tariffs, or other added costs as the reasons for withdrawing from international markets. Changes in regulation, lack of foreign demand, and lack of information about global markets were also acknowledged as reasons for no longer exporting. None of the four former exporters are currently considering re-entering foreign markets, and it was a 50/50 split whether the firms would ever again pursue international markets given “the right market conditions and information.”

Consistent with Kentucky statistics, Canada is the number one trade partner among the participants, 11 firms are active in Canada, 8 in Mexico. The 2<sup>nd</sup> leading trade partner to Kentucky according to statistics, France, was not captured within this sample size; only two of the participants are involved in French markets. “Other” countries mentioned in the open-ended response included: Scotland, Holland, Belgium, Sweden, Poland, Indonesia, and Australia. Figure 3.5 shows the breakdown of participants’

involvement in foreign markets, indicating the number of firms partnering with each country.

**Figure 3.5: Participants' Involvement in Foreign Countries by Number of Firms<sup>1,2</sup>**

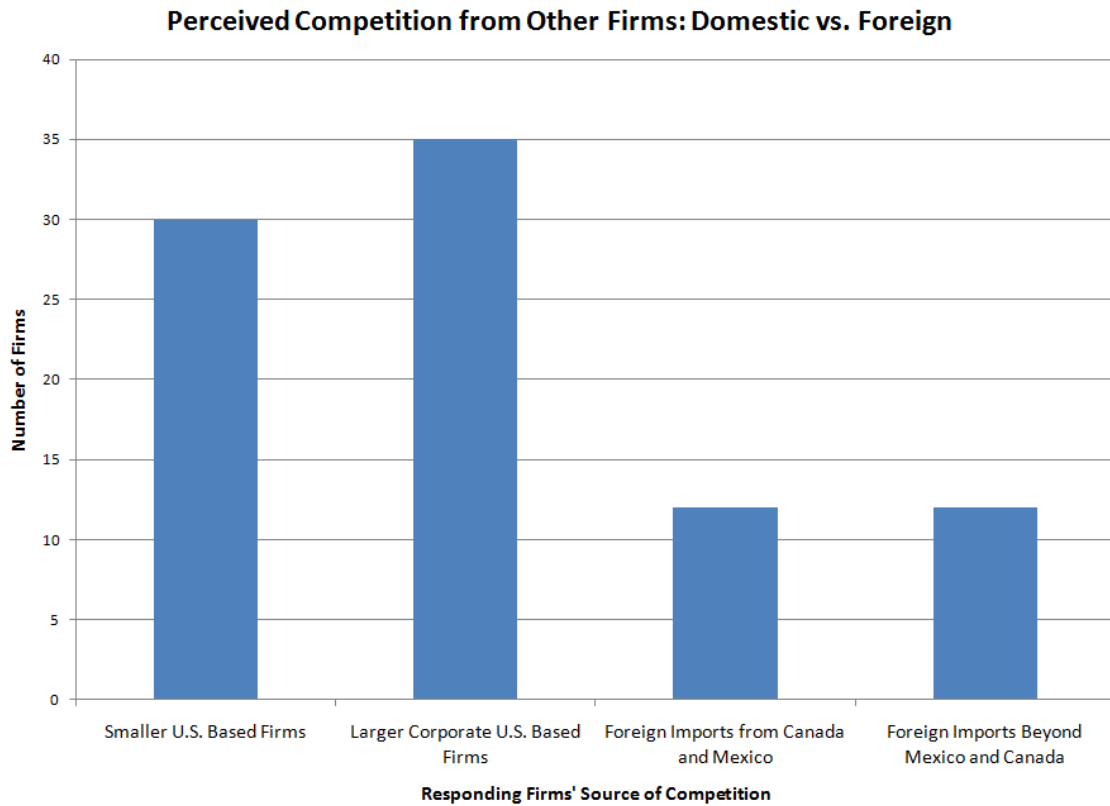


Oftentimes, especially in the media, we hear about the competition American firms face from international companies and globalization. Figure 3.6 contests that fact, however. In this study, firms contribute most of the competition faced to domestic firms, small and large. There is a considerable difference between the number of firms describing competition from domestic firms and those indicating competition from foreign firms, in North America and beyond.

<sup>1</sup> Respondents were able to make more than one selection for this question.

<sup>2</sup> Non-response rate of N=26

**Figure 3.6: Sources from which Kentucky Agricultural Firms Face Competition<sup>3,4</sup>**



Over 60% of firms surveyed agree with the statement “International sales carry a higher risk than domestic marketing.” Barringer, Wortman Jr. and Macy (1994) found positive correlations between the lack of information and the lack of interest in exporting and perceived riskiness. The lack of knowledge about export markets increased perceived riskiness and the authors suggest better planning to overcome such perceptions as inhibitions to exporting.

A cross-tabulation with the survey question “Does your firm currently export products?” offered some interesting results, presented in table 3.1.

<sup>3</sup> Non-response rate, N=2

<sup>4</sup> Respondents could check all that apply

**Table 3.1. Cross-Tabulation of International Experience between Exporters and Non-Exporters**

<b>Do Any of Your Employees Have International Experience?</b>				
	Exporters		Non-Exporters	
	Number of firms	Percent	Number of Firms	Percent
Yes	9	60.0	9	60.0
Foreign Language	6	66.7	3	33.3
Export Experience	5	55.6	2	22.2
Foreign Travel	8	88.9	7	77.8
Other	1	11.1	2	22.2
No	6	40.0%	21	70.0
<b>Our Firm Receives Sales Proposals from International Companies<sup>5</sup></b>				
	Exporters		Non-Exporters	
	Number of firms	Percent	Number of Firms	Percent
Many = 1	7	46.7	1	3.7
2	2	13.3	1	3.7
3	2	13.3	4	14.8
4	1	6.7	3	11.1
None = 5	3	20.0	18	66.7
<b>Our Firm Approaches Foreign Companies for Sales and New Markets<sup>5</sup></b>				
	Exporters		Non-Exporters	
	Number of firms	Percent	Number of Firms	Percent
Many = 1	6	42.9	0	0
2	1	7.1	0	0
3	3	21.4	1	3.7
4	2	14.3	2	7.4
None = 5	2	14.3	24	88.9
<b>We Are Currently Looking To Pursue New Foreign Markets</b>				
	Exporters		Non-Exporters	
	Number of firms	Percent	Number of Firms	Percent
Strongly Agree	6	40	0	0
Somewhat Agree	4	26.7	1	3.3
Unsure	4	26.7	11	36.7
Somewhat Disagree	1	6.7	0	0
Strongly Disagree	0	0	18	60

60% of exporting firms have employees with international experience, mostly foreign travel, while 70% of non-exporting firms do not have employees with

<sup>5</sup> Four firms did not respond to this question

international experience. 46.7% of exporting firms receive “many” sales proposals from international companies, and 42.9% of exporting firms approach “many” foreign companies for sales and new markets. Exporters are both proactive and reactive. On the other hand, 66.7% of non-exporting companies do not receive any international sales proposals and 88.9% of non-exporting firms do not approach foreign companies for sales and new markets. Non-exporters are definite in their decision not to export: 60% strongly disagreed with the statement “We are currently looking to pursue new foreign markets.”

An interesting comparison through the cross-tabulation between exporters and non-exporters arises with the statement “Finding information about consumer wants and needs is difficult.” 30% of non-exporters “somewhat agree” with this statement, while 28.6% of exporters “strongly disagree” with the statement. These statistics suggest that despite a larger market, exporting firms have a better technique for identifying consumer preferences than non-exporting firms.

Table 3.2 shows the cross-tabulation of responses for survey question 60, covering additional perceived barriers to international markets. 84% of non-exporting firms perceive high costs as a constraint to exporting, while only 27.3% of exporters identified limitations from high costs. Trade barriers and tariffs, however, are identified as barriers to international markets by 63.6% of exporting firms and 64% of non-exporting firms. Currency rates were identified as constraints to international marketing by 45.5% of exporters. Overall, non-exporting firms are equally concerned with management strategies for exports, insufficient capital, currency rates, and exporting records.

**Table 3.2. Cross-Tabulation between Exporters and Non-Exporters: Additional Barriers to Export<sup>6</sup>**

	Exporters		Non-Exporters	
	Number of Firms	Percent	Number of Firms	Percent
Management Strategies for Export Activities	2	18.2	16	64
Insufficient Capital	2	18.2	17	68
High Costs of Exporting	3	27.3	21	84
International Financing	1	9.1	9	36
Currency Rates	5	45.5	14	56
Paperwork (export records)	2	18.2	16	64
Trade Barriers and Tariffs	7	63.6	16	64

The raw data provides an overview of the responding agribusinesses and food processors, especially in terms of exporters versus non-exporters. Overall, the firms evaluated are small in terms of gross annual sales and number of employees. Chapter four identifies the analytical framework used to determine the impact of factors on the firm’s decision to export and a firm’s interest in international marketing. The empirical analysis identifies the marginal effects and statistical significance of firm characteristics, knowledge gaps, perceived marketing conditions, overall perceptions of international markets, and financial aspects of exporting. The results of the analysis are presented in chapter five.

<sup>6</sup> A non-response rate of 9 firms is observed for this survey question.

## Chapter 4 ANALYTICAL FRAMEWORK

### 4.1 Model Specification

For this analysis two dependent variables, “export” and “interest,” are evaluated.

Both variables are discrete variables,  $y_i$  where

$$y_i = 1 \text{ if firm answers yes}$$

$$y_i = 0 \text{ if firm answers no}$$

Therefore, the conditions for a linear regression are not satisfied and binary choice models must be used. In this study, two logistic regressions (also referred to as logit models) explain the choice between the discrete alternatives for the two dependent binary variables. The logit model is the most commonly used binary choice model (Train, 1993).

In general the functional form of the logit model is:

$$P\{y_i = 1|x_i\} = G(x_i, \beta)$$

which is interpreted as for some function  $G(\cdot)$ , a value within the interval  $[0,1]$ , the probability of  $y_i = 1$  depends on a vector  $x_i$ , a set of independent variables: in this case firm characteristics and market perceptions (Verbeek, 2004). Three properties of logit probabilities must be met 1) each choice probability ranges from zero to one, 2) the choice probabilities sum to one, such that the decision maker cannot choose more than one alternative, and 3) the graph of the logit curve is sigmoid, or S-shaped (Train, 1993).

The logit model follows standard logistic distribution,  $F$ , which, given  $G(x_i, \beta) = F(x_i', \beta)$ , is expressed as:

$$F(w) = L(w) = \frac{e^w}{1 + e^w}$$



where  $w$  is a random variable. For simplicity, we can assume  $w = x'_i\beta$ .

The estimated parameter vector  $\beta$  is estimated by maximizing the log of the likelihood function:

$$\text{Log } L(\beta) = \sum_{i=1}^N y_i \log F(x'_i\beta) + \sum_{i=1}^N (1 - y_i) \log (1 - F(x'_i\beta))$$

To maximize the loglikelihood function, the first order conditions simplify to:

$$\frac{\partial \log L(\beta)}{\partial \beta} = \sum_{i=1}^N \left[ y_i - \frac{\exp(x'_i\beta)}{1 + \exp(x'_i\beta)} \right] x_i = 0$$

where the solution to the above equation is the maximum likelihood estimator,  $\hat{\beta}$ .

Substituting  $\hat{\beta}$  estimates the probability that  $y_i = 1$  for a given  $x_i$  such that

$$\hat{p} = \frac{\exp(x'_i\hat{\beta})}{1 + \exp(x'_i\hat{\beta})}$$

Therefore, the first order conditions for the logit model propose

$$\sum_{i=1}^N \hat{p}_i x_i = \sum_{i=1}^N y_i x_i$$

which can be interpreted as: the sum of estimated probabilities for each alternative is equal to the number of observations in sample where  $y_i = 1$  (Verbeek, 2004). So, the estimate that maximizes the log likelihood function sets the average probability for each alternative equal to the number of decision makers in the sample that chose the alternative; the predicted frequency is equal to the actual frequency.

## 4.2. Description of Variables

Two binary logistic regressions are used to explain two dependent variables in the analysis 1) the decision to export and 2) interest in pursuing international marketing. One

objective of this thesis is to determine how economic theories of competitive advantage, knowledge gaps, marketing conditions, and firms' perceptions affect the decision to export and the interest of a non-exporting firm in international marketing. Table 4.1 gives a description of the variables used in the study based on the correlating survey question. The survey presents the survey question used and the method for coding the response. Table 4.2 presents descriptive statistics for the dependent variables. Table 4.3 shows the descriptive statistics for independent variables.

**Table 4.1. Description of Variables**

<b>Survey Question</b>	<b>Response Code</b>
<b>Dependent Variables</b>	
Does your firm currently export products?	1 if yes, 0 otherwise
Our firm is interested in pursuing international marketing opportunities	1 if yes, 0 otherwise
<b>Independent Variables</b>	
<b>Firm Characteristics</b>	
How many years has your firm been in business?	
Choose the range that best describes your firm's number of employees	Midpoint of response range
Select the range which best identifies your firm's annual gross sales.	
Is your product available through online sales?	1 if answered "we have a company website where our product is for sale", 0 otherwise

**Table 4.1. Description of Variables (continued)**

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<b>Firm Characteristics (continued)</b>	
Our firm has a special division dedicated to making market selection decisions.	1 if yes, 0 otherwise
Do any of your employees have international experience?	1 if yes, 0 otherwise

---

<b>Knowledge Gaps</b>	
The availability of information about a market influences whether or not we pursue the market	
Identifying and establishing new markets for my company is hindered by a lack of information	5 importance levels: strongly agree, somewhat agree, unsure, somewhat disagree, strongly disagree
It is more difficult to find information about international markets than U.S. markets	

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<b>Marketing Conditions</b>	
Our firm actively identifies and considers new marketing opportunities	
Our firm pursues only markets that meet our predetermined “ideal” characteristics	5 importance levels: strongly agree, somewhat agree, unsure, somewhat disagree, strongly
Growth in production capacity and sales volume are important objectives of our company	
Our firm chooses markets based on existing demand	
Country-specific regulations, tariffs, and/or fees factor into our decision to enter a foreign market	Scale of 1 to 5 1= very much; 5 = not at all
Our firm has a competitive advantage in terms of price/cost advantages	1 if yes, 0 otherwise

---

**Table 4.1. Description of Variables (continued)**

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**Financial Aspects**

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International sales carry a higher risk than domestic marketing

Our company views the costs of international marketing and sales as constraints to entering the global market      5 importance levels: strongly agree, somewhat agree, unsure, somewhat disagree, strongly disagree

Our company views international marketing as a means of diversification for the company

Our firm considers insufficient capital to be a barrier to international markets      1 if yes, 0 otherwise

---

**Table 4.2: Descriptive Statistics of Dependent Variables**

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
Export	0.31	0.47	0	1
Interest	0.32	0.48	0	1

**Table 4.3: Descriptive Statistics of Independent Variables**

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
Age	16.56	12.77	2.5	47
Employee	27.27	38.79	5	120
Sales (\$1,000)	9057.13	18696.25	50	60000
Websales	0.40	0.50	0	1
International Experience	0.36	0.48	0	1
Available Information	2.64	1.00	1	5
Lack of info hinders market identification	3.34	1.18	1	5
Difficult	2.80	1.24	1	5
Identifying new markets	2.11	1.19	1	5
Ideal Markets	3.18	1.28	1	5
Growth	2.07	1.23	1	5
Demand Based Market Choices	2.24	1.19	1	5
Regulations	2.78	1.51	1	5
Price Advantages	0.62	0.49	0	1
Risk	1.87	0.97	1	5
Cost Constraints	2.47	1.31	1	5
Diversification	3.60	1.29	1	5
Capital	0.38	0.49	0	1

### **4.3 Rationale of Variables**

#### **4.3.1. Dependent Variables**

One dependent variable is evaluated for each logistic regression equation. The first, dependent variable “export,” models the likelihood that a firm currently exports its products (N=45). Fourteen of the 45 observed firms currently export products. Thus, to gain a better perspective on the status of internationalization in Kentucky, a second logistic regression, dependent variable “interest” was added. The second regression attempts to explain the likelihood that a non-exporting firm has an interest in

international marketing. The 14 exporting firms were excluded from the “interest” model, therefore N=31. Together these models explain the status and potential of Kentucky’s agricultural and food processing firms in the international marketplace.

#### **4.3.2. Independent Variables**

Descriptions of the specified independent variables based on the survey question can be found in Table 4.1. The independent variables are categorized as 1) firm characteristics 2) knowledge gaps 3) marketing conditions and 4) financial aspects. Firm characteristic variables include descriptive aspects of the firm such as age, size, and structure. It is hypothesized that the structure of a firm, especially in terms of size (number of employees and gross annual sales) will positively affect the likelihood that a firm exports its products. The firm characteristic variables are measured as the midpoint of the range of numbers or as binary (yes/no) variables. The remaining classifications of variables are measured either as binary variables or on a five point likert scale: strongly agree, somewhat agree, unsure, somewhat disagree, and strongly disagree, ranking relevant statements.

In any market evaluation, the question of information or knowledge gaps is crucial. The lack of information causes markets to operate inefficiently. Firms may suffer from knowledge gaps specific to international markets, and therefore choose not to export based on the poor availability of information.

In this study, market conditions are identified as perceived by firm decision makers since it is not possible to capture the current market conditions for such a wide industry variety of Kentucky’s agricultural and rural firms. Perceived competitiveness in

markets, the role of regulations, and the firm's method for selecting markets are analyzed against the decision to export and interest therein.

Intuitively, financial aspects would be some of the most important factors determining whether a firm exports its products. Perceived riskiness of international markets compared to domestic markets, international marketing as a means of diversification, cost constraints to exporting, and the available capital to engage in international markets are analyzed in this group of regressors.

Due to the small sample size, it was not possible to evaluate all of the possible variables to preserve degrees of freedom. A group of independent variables was selected based on the theory to represent the categories of interest: firm characteristics, knowledge gaps, marketing conditions, and financial aspects. Because the sample size is smaller for the regression analyzing interest in international marketing, fewer independent variables were used. In testing several the models for dependent variable export, firm characteristic variables were consistently insignificant; therefore they were excluded from the final export regression. Risk was not included in the export model since there was a separation of data points when the variable was included.

## Chapter 5 EMPIRICAL RESULTS

### 5.1. Model Validation

For the logit model, the likelihood ratio index (LRI), often referred to as McFadden's pseudo- $R^2$ , measures how well the data fits the model. The interpretation of the LRI is different from the  $R^2$  measurement in a linear regression which measures the explained variation of the dependent variable. The LRI compares the model with estimated parameters to the model's equivalent where all of the parameters are equal to zero. The LRI value takes a value between [0,1] and is the percent increase in the log likelihood function above the value of the log likelihood function with parameters equal to zero. The likelihood ratio function is expressed as:

$$\rho = 1 - (LL(\beta^*)/LL(0))$$

such that  $LL(\beta^*)$  is the log likelihood function calculated using the estimated parameters and  $LL(0)$  is the function when parameters are equal to zero. While the likelihood ratio index has no economic definition, it is acknowledged that a higher  $\rho$  translates as a better fit model (Train, 1993). The LRI for the model analyzing dependent variable "export" in this study is 0.56. For the dependent variable "interest" the LRI is 0.44. Both models are a good fit, with the export model being much stronger than the interest model. The strength in the export model is likely due to its larger sample size.

### 5.2 Parameter Estimates and Odds Ratios

The parameter estimates for the logit models are found in tables 5.1 and 5.2. Table 5.1 defines the coefficients and statistical significance for the export model and Table 5.2 presents the same for the interest model.



**Table 5.1. Logistic Regression Results for Export Model<sup>7</sup>**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>
<b>Knowledge Gaps</b>		
Available Information	-0.5786	0.7097
Lack of Info Hinders Market Identification	-3.0371**	1.4072
Difficult	1.7039*	0.9322
<b>Marketing Conditions</b>		
Ideal Markets	-0.3454	0.5918
Growth	1.2161*	0.6573
Demand Based Market Choices	-0.5840	0.8017
Regulations	-1.4112*	0.8027
Price Advantages	1.3752	1.8887
<b>Financial Aspects</b>		
Cost Constraints	1.6452*	1.0180
Diversification	-0.8385	0.6749
Capital	-5.4340**	2.6473
Intercept	8.2461	
LRI	0.56	

**Table 5.2 Logistic Regression Results for Interest Model<sup>7</sup>**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>
<b>Firm Characteristics</b>		
Age	0.0804	0.0913
Sales (\$1,000)	-0.00060	0.000525
Websales	-0.9306	1.5254
International Experience	0.5167	1.3564
<b>Knowledge Gaps</b>		
Available Information	1.8425*	1.0097
Difficult	-1.8478**	0.8670
<b>Marketing Conditions</b>		
Identifying New Markets	0.1928	0.4896
<b>Financial Aspects</b>		
Risk	2.5536***	1.0908
Cost Constraints	-1.2727	1.1065
Intercept	-3.3755	
LRI	0.44	

<sup>7</sup> \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively

### 5.2.2 Export Equation Results

The export model evaluates the impact of knowledge gaps, marketing conditions, and financial aspects on the firm's decision to export products. Firm characteristic variables were omitted from this model due to consistent lack of significance. Early hypotheses anticipated firm and employee characteristics such as size, online sales, and employees' international experiences to be significant variables; however in the process of defining the model it was discovered that those variables lack significance in the decision to export, possibly due to small response variation. None of the variables used in the export model are significant at the 1% level, yet each category is represented by statistically significant variables at the 5% or 10% levels.

A negative relationship exists between the decision to export and the theory that the lack of information hinders the identification of new markets, statistically significant at 5%. The variable is based on a five point likert scale where one additional unit expresses disagreement; based on the odds ratios, the firm is less likely to export for a one unit increase on the scale. This suggests that exporting firms experience information gaps when identifying and establishing new markets. Although not statistically significant, the correlation of the variable defining the general importance of the availability of information is interesting to note. The more a firm disagrees that the availability of information influences the decision to pursue a market, the less likely that firm is to export its products. For a one unit increase on the scale of disagreement with the statement that international market information is more difficult to find than domestic market information, the firm is more likely to export products, statistically significant at

the 10% level. This implies that a more globalized approach to finding market information increases the likelihood that a firm will export.

Also contrary to theory, a negative correlation exists between the decision to export and growth in production and sales as a company objective. The firm is more likely to export products for each additional unit on the five point scale of disagreement to the statement. This suggests exporting firms do not value growth in production capacity and sales volume as important objectives of the company.

The marketing conditions evaluated in this particular analysis focused on the characteristics important for a firm's market selection. Of the market selection determinants, the only statistically significant variable represents the impact of regulation on the decision to enter global markets. The response was measured on a scale of one to five where 1=very much and 5= not at all for the statement "Country-specific regulations, tariffs, and/or fees factor into our decision to enter a foreign market." The analysis shows a negative relationship; the less attention a firm gives to regulation during market selection, the less likely the firm is to export.

Financial aspects of international marketing are the first constraints speculated when addressing small to medium sized agricultural and rural firms in Kentucky. It is hypothesized that a lack of excess capital prevents smaller firms from pursuing foreign markets. The analytical results support this hypothesis. A firm is more likely to export products with one additional unit of disagreement towards costs of international marketing and sales as constraints to entering the global market. The variable measuring perceived cost constraints is significant at the 10% level. Furthermore, if a firm considers

capital to be a barrier to international markets, the firm is less likely to export products, statistically significant at the 5% level.

### **5.2.3 Interest Equation Results**

Variables describing firm characteristics, information inequalities, marketing conditions, and financial aspects as barriers are regressed against a firm's interest in pursuing international marketing opportunities following the objectives of the study,. While firm characteristics were insignificant in the export model, some significance was expected in determining a firm's interest in exporting. Financial aspects were also anticipated to explain the dependent variable in this model, while fewer independent variables characterizing marketing conditions were included.

In actuality, the results showed no significance among the firm characteristic variables. Perhaps most surprisingly, international experience of employees did not statistically significantly impact a firm's interest in international marketing. It may be that in today's "global society," employees with international experience (further specified as foreign language, foreign travel, previous experience in exports, or other), are not as uncommon as years past, but rather distributed evenly among firms with different company objectives. Size and experience of the firm were not significant in the interest model, nor did online sales have a statistically significant impact. A market selection variable describing the firm's activity in identifying and establishing new market opportunities was included in hopes of finding correlation between the firm's overall pursuit of new markets and the interest in exporting. Although the coefficient for the variable is positive, market selection is not statistically significant in this model.

Perceived risk and cost constraints relative to foreign marketing were analyzed in this model to capture the impact of financial barriers to export, or interest therein. The variable defining perceived risk is statistically significant at the 1% level. For an additional unit of disagreement expressed regarding the statement “International sales carry a higher risk than domestic marketing,” the firm is more likely to have an interest in pursuing international marketing opportunities. This implies that firms interested in exporting do not see international marketing as a high risk activity.

The interest model is best explained by the “knowledge gap” variables included. The difficulty of access to international market information is significant at the 5% level. The firm is less likely to have interest in exporting given a one unit increase on the five point scale of disagreement opposing the idea that information about international markets is more difficult to find than domestic market information. The opposite relationship was observed for the independent variable “difficult” in the export market. Intuitively, one would expect a firm acknowledging equal access to foreign and domestic market information to be interested in pursuing those markets.

The availability of information as an influence on market pursuit is significant at the 5% level in the interest model. Theory predicts a positive relationship between this variable (measured on the five point scale of disagreement) and a firm’s interest in pursuing international markets; firms which do not base new market pursuit on the availability of information would be more likely to express interest in foreign markets since those firms are less concerned with information constraints. The results follow theory; the independent variable “available information” is positively correlated with the likelihood that a firm is interested in exporting.

### 5.3 Marginal Effects

Table 5.5 and Table 5.6 introduce the marginal effects for the export and interest models, respectively. The marginal effects in a logit regression represent the slope of the probability curve relative to independent variables, *ceterus paribus*. Marginal effects are expressed mathematically as follows:

$$\frac{\partial p}{\partial \beta} = f(\beta x_i) \beta$$

where  $\beta$  is the estimated coefficient and  $p$  is probability. Including an analysis of marginal effects of the independent variables strengthens the interpretations of regression results since marginal effects describe the magnitude of each variable's impact.

**Table 5.3. Marginal Effects for Export Model<sup>8</sup>**

Variable	dy/dx	Std. Error
<b>Knowledge Gaps</b>		
Available Information	-0.359	0.047
Lack of Info Hinders Market Identification	-0.188**	0.124
Difficult	0.106*	0.087
<b>Marketing Conditions</b>		
Ideal Markets	-0.021	0.039
Growth	0.075*	0.061
Demand Based Market Choices	-0.036	0.050
Regulations	-0.087*	0.060
Price Advantages	0.077	0.091
<b>Financial Aspects</b>		
Cost Constraints	0.102*	0.077
Diversification	-0.052	0.063
Capital	-0.354**	0.181

<sup>8</sup> \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively

**Table 5.4. Marginal Effects for Interest Model<sup>9</sup>**

<b>Variable</b>	<b>dy/dx</b>	<b>Std. Error</b>
<b>Firm Characteristics</b>		
Age	0.002	0.003
Sales (\$1,000)	-0.00002	0.00002
Websales	-0.022	0.055
International Experience	0.016	0.054
<b>Knowledge Gaps</b>		
Available Information	0.049*	0.101
Difficult	-0.049**	0.103
<b>Marketing Conditions</b>		
Identifying New Markets	0.005	0.016
<b>Financial Aspects</b>		
Risk	0.068***	0.142
Cost Constraints	-0.034	0.069

For the export model, the smallest marginal impact is experienced among the market selection variables (available information, ideal markets, and demand based market choices). While none of those variables are statistically significant, the marginal impact is a 2%-3% decrease in the likelihood that a firm exports its products. Perceived cost constraints and difficulty finding international market information have a considerable impact on whether or not a firm exports. For a one unit increase on the agree/disagree scale regarding both costs as constraints and relative difficulty of information search for international versus domestic markets, the likelihood that a firm exports increases by about 10.2% and 10.5% , respectively.

The impact of information inefficiencies on the process identifying and establishing new markets is significant and relatively large although the relationship is counter intuitive. A one unit increase on the agreement/disagreement scale leads to firms being 18.8% less likely to export their products. Evaluating marginal effects confirms

<sup>9</sup> \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5% and 1% levels, respectively

capital as the leading determinant in a firm's decision to export products. A firm perceiving insufficient capital as a barrier to export is 35% less likely to export. Small agricultural and food processing firms in Kentucky are not exporting due to financial constraints.

The marginal effects of the variables regressed in the interest model are all fairly small, ranging from practically no change to a 6% change in the likelihood that a firm is interested in pursuing international opportunities. For a one unit increase on the agreement/disagreement scale for the statement regarding the influence of available information on the pursuit of new markets, the firm is 4.9% more likely to be interested in pursuing exports. Perceived difficulty of international market information search produces an equivalent impact, 4.9%, but is negatively correlated; a one unit increase on the scale decreases the likelihood that a firm is interested in international marketing. Risk of international marketing is the most statistically significant variable, at the 1% level, and also has the highest marginal impact on a firm's interest in exporting. For a one unit increase on the agreement/disagreement scale, the firm is 6.8% more likely to express interest in international marketing.



## **Chapter 6**

### **CONCLUSIONS**

#### **6.1 Summary**

Since the Tobacco Transition Payment Program (or tobacco buyout), Kentucky agricultural policy has emphasized the creation of new marketing opportunities especially in adding value to the state's agricultural and food products. Several small value-added agricultural and food processing firms have emerged at a time when value-added agri-food products are increasing rapidly among U.S. exports.

This thesis aimed to identify and evaluate the current status and potential of Kentucky agribusinesses in global value-added product markets. The specific objectives were to identify and evaluate Kentucky value-added food and agricultural producers':

- Product marketing opportunities for international exports
- Product specifications for international exports
- Transaction requirements for potential international exports
- Constraints and challenges to the decision to export

To achieve these objectives, a survey analysis of Kentucky value-added agricultural and food producers evaluated firms' perceptions towards international markets. An empirical analysis was constructed to examine the factors, namely constraints and challenges, contributing to a firm's decision to export products and interest therein. Since the dependent variables are binary, two logistic binary regressions were performed to explain the impact of firm characteristics, knowledge gaps, marketing conditions, and financial aspects on the likelihood that a firm currently exports its product or is interested in international marketing.

Sample bias is a major shortcoming of the research, due to the design of the survey sample. Some selection bias occurred during the sampling, and a bias is also present in the fact that participants expressed willingness to complete questionnaires during an initial telephone call. The sample is biased towards those firms who were interested in the study, from which one can assume that the non-respondents contribute to additional lack of interest in international marketing.

## **6.2 Conclusions**

The conclusions address the objectives presented in Chapter 1 and are based on the literature review, summary of questionnaire responses, presented in Chapter 3, and also the empirical results interpreted in Chapter 4.

The first two objectives, to identify and evaluate product marketing opportunities including product specifications for potential exports, are primarily addressed in chapter 1 and through the survey data. In recent years, U.S. exports have been exponentially increasing in value-added agriculture and food products. Several small to medium sized firms in Kentucky produce animal feed, jams and jellies, sauces, bakery goods, and other value-added food products. The bourbon industry in Kentucky is already very active in international markets. Current exporters in this study are active marketers across six continents. A larger sample size which more accurately reflects Kentucky agribusinesses and food processors would identify product marketing opportunities more specifically. Assistance programs for international marketing are available to Kentucky firms through the Kentucky Department of Agriculture and also through trade associations like the Kentucky World Trade Center.

Regarding the objective to identify and evaluate transaction requirements for potential exports, the results indicate that high costs to exporting are perceived mainly by non-exporters. Few current exporters cited costs, exchange rates, or record keeping as constraints to exporting; rather trade barriers and tariffs were important to exporting firms. Transaction costs such as exchange rates did, however, play a role in the withdrawal of former export participants from international markets. The empirical analysis concludes that the most important transaction requirements for exports are sufficient capital, the search for market information, and export planning and research. Insufficient capital as a perceived constraint to international activity had the strongest marginal impact on the decision to export. Overall from the survey responses and empirical results, perceptions of international markets heavily influence both firms' interest and activity in international markets. A large portion of current exporters initiated international activity as a response to foreign sales proposals, yet almost none of the firms solicited initial foreign sales. Firms are reactive, not proactive, to international marketing.

The lack of market information was significant throughout the empirical results of this study, as well as the evaluation of survey responses. Kentucky agribusinesses and food processors face knowledge gaps in identifying and selecting new markets domestically and abroad, in determining both product demand and their own competitive advantage in a market, and concerning market regulations. Information gaps affect not only the decision to export products but also the overall interest in pursuing international marketing opportunities. A much higher number of participants indicated potential interest in pursuing international markets if demand for their product existed or if they

had a competitive advantage in the market compared to the actual number of firms expressing current interest in exports. Informational inefficiencies prevent market characteristics from reaching firm decision makers.

This research aims to 1) inform Kentucky agribusinesses about international marketing opportunities and available resources for assistance 2) identify the constraints and challenges perceived by participating firms to improve the efficiency of export enhancement services and targeted export promotion and 3) explore the role of Kentucky's agribusinesses in global markets. The findings provide useful information for policymakers, state agencies, academic researchers, and Kentucky agricultural and food processing firms. Identifying factors that contribute to export decisions and interest in foreign marketing is important to evaluate international marketing at the local level, among smaller firms.

### **6.3 Policy Implications**

Export assistance and promotion programs are designed to increase U.S. exports, and those programs have evolved to focus on encouraging exports among small to medium sized firms. From a firm perspective, the programs are designed to bridge information gaps about international markets and assist in the initial pursuit of international markets. Few studies have analyzed the efficiency of export promotion programs on the sustainability of exports among smaller businesses. Wilkinson and Brouthers (2006) found a positive correlation between the trade leads and export programs and a firm's self-proclaimed export success. The results of this research are useful for the policymakers in the design of Kentucky trade policy.

Overall, this study concludes a lack of interest in international marketing among Kentucky agribusinesses and food processors. 62.5% of non-exporters had no interest in pursuing international markets. The large non-response rate, 181 unreturned surveys sent to firms agreeing to participate, indicates even greater lack of interest. Perceived riskiness of international markets compared to domestic markets had the largest marginal effect on a firm's interest in international marketing opportunities.

Financial constraints impact an agricultural firm's decision to export the most. Insufficient capital as a perceived barrier to export had a large, significant marginal impact on whether or not a firm currently exports products. Given the scope of this study, 45% of participating firms operate at less than \$100,000 in annual gross sales, the results suggest that firms are behaving rationally. Small firms do not have the capital to invest in foreign markets.

Among participating current exporters, 63% did not use government assistance programs, stating that those programs were either not useful or the firm was unaware of such programs. Only one of the fourteen exporting firms used the Kentucky Department of Agriculture for export assistance. Further export research should include a cost benefit analysis of export promotion policies in Kentucky.

#### **6.4 Suggestions for Further Research**

Currently, research pertaining to the international involvement of Kentucky's food and fiber industry is limited. Additional information in this area will help identify the needs of Kentucky agribusinesses for potential exports and the overall perception in the industry about international marketing. Further research will also benefit policymakers in the design of state export promotion and assistance programs. A more

in-depth investigation is needed into the role of a firms' competitive advantage in international markets, and also into the conflict between export promotion programs and the "buy local, sell local" campaign.

Increasing the sample size for this study, following survey sampling protocol, will permit a more thorough analysis with the inclusion of additional variables and theories. A mail survey might be more efficient at increasing the sample size and a comparison of response rates for different data collection methods among agribusinesses would be informative for researchers. The study could be enhanced using case study and interview approaches to gather more information about Kentucky agribusinesses and food processors. A larger sample size would allow a further application of the analysis to different subsectors within Kentucky's agricultural industry to offer a product-based exploration of international marketing opportunities.

Any additional research is beneficial to ensure that Kentucky agriculture remains competitive among increasingly global markets. Other states and countries may benefit from this analysis to improve their export promotion strategies among smaller agribusinesses and to identify constraints and challenges to international marketing faced by their local firms.

## Appendix I. Questionnaire

**University of Kentucky  
Department of Agricultural Economics  
Marketing Strategies Survey for Kentucky Agricultural Firms**

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### SECTION A: OVERVIEW OF FIRM

The following questions are to gain a better understanding of the size, scope, and structure of your company and your procedures for market selection. Please check the response that best describes your firm. Unless otherwise noted, please check only one response. Please feel free to provide comments and additional details throughout this survey.

1. Please check the following selection which best identifies the product line of your business.

- Ag supply/sales, nonfood
- Bakery products (cakes, cookies, homemade fried pies, potato chips, and related products)
- Beverages (soft drinks, bourbon, wine, etc...)
- Candy and other confectionary products, snack foods
- Condiments/spices/syrup
- Dairy Products
- Forestry Products (finished and semi-finished furniture)
- Fresh Produce (fruits, vegetables, herbs, etc...)
- Fruits/ Vegetables- Frozen and Canned
- General Grocery
- Jams/ Jellies
- Meat/Poultry
- Merchandise
- Nursery Products (trees, shrubbery, flowers, etc...)
- Seafood
- Tobacco Products (smoking or smokeless)
- Other

Please describe your main products

2. How many years has your firm been in business?

- 0-5 years
  - 6-10 years
  - 10-15 years
  - 15-20 years
  - 21 years or more
3. Choose the range that best describes your firm's number of employees
- Less than 25
  - 25-50
  - 51-75
  - 76-100
  - over 100
4. Select the range below which best identifies your firm's annual gross sales
- Less than \$100,000
  - \$100,000-\$250,000
  - \$250,000-\$500,000
  - \$500,000-\$1 million
  - \$1- \$10 million
  - \$10-\$25 million
  - \$25-\$40 million
  - \$40-\$55 million
  - over \$55 million
5. Which of the following describes the organization of your business?
- Sole Proprietorship
  - Partnership
  - Private Corporation
  - Public Corporation
  - Cooperative
6. Select the response(s) which best describes your company's sales procedure.
- Our company sells its product...**
- directly to the consumer
  - to retailers
  - to distributors
  - to wholesalers
  - to partners in joint ventures, collaborative projects, or franchises
7. Our **customers** export their products
- Yes
  - No



8. Our firm is **only** interested in local marketing on the farm or at farmers' markets
- Yes  
 No
9. We participate in farmers' markets on a regional level, selling at multiple farmers' markets
- Yes  
 No
10. Is your business considered an "agri-tourism" attraction?
- Not at all  
 Yes, agri-tourism is our main focus  
 We incorporate agri-tourism by hosting a seasonal festival, but agri-tourism is not our main focus  
 Our business offers site tours for visitors, but agri-tourism is not our main focus  
 Other Comments \_\_\_\_\_
11. Is your product available through online sales?
- We do not have a company website  
 We have a company website but are not interested in online sales  
 We have a company website where our product is for sale  
 We do not currently sell our product online, but we are interested in doing so  
 Limited access to internet prevents our firm from online marketing
12. We sell our product internationally via online sales
- N/A  
 Yes, we currently accept international orders  
 We formerly accepted international orders but no longer do so  
 We do not accept international orders  
 Other Comments
13. Our firm has cutting edge operating techniques (e.g. production, sales, finance, personnel, etc...) which set us apart from firms:
- Locally  
 Regionally  
 US Domestically  
 Globally  
 We currently do not have operating techniques which set us aside from other companies

14. Our firm has a special division dedicated to making market selection decisions

- Yes
- No

15. Our company chooses to participate in a market:

- (A) Based on industry trends
- (B) Based on opportunities which present themselves to our company
- (C) Based on markets we actively seek and pursue ourselves
- B and C
- All of the above

16. Please respond to the following statements about **market selection** based on a scale of 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). (Check one)

	1	2	3	4	5
Our firm actively identifies and considers new marketing opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our firm pursues only markets that meet our predetermined "ideal" characteristics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lack of market information acts as a constraint in market selection and development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The availability of information about a market influences whether or not we pursue the market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My firm chooses to participate only in those markets where we have an advantage over our competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If demand for a product existed on the international market, we would be interested in pursuing it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If our company had competitive advantages on the international market we would pursue those markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Please respond to the following statements based on a scale of 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). These questions will help us gain a better understanding of what business characteristics are important to your company. (Check one)

1 2 3 4 5

Our competitors have an advantage over us in operating procedures and firm organization

Growth in production capacity and sales volume are important objectives of our company

Our company views U.S. markets and international markets as separate and unique markets

18. Does your firm currently export products?

Yes

No

**If you answered YES to question 18, please answer the following questions. If you answered NO to question 18, please skip to SECTION B**

19. How did you decide to enter foreign markets? **Select all that apply**

Sales proposals from international companies

Petitioning foreign companies for sales

Other firms in the industry began to market internationally

Product demand was observed in the foreign market

Trade lead from a trade assistant or private source

Trade lead from a U.S. government source

Other

20. Did you take advantage of government assistance in planning and implementing export strategies?

Yes

No

21. If "Yes", please select the services which were used. (Check all that apply)

U.S. Department of Agriculture

Kentucky Department of Agriculture

Universities (please specify)

Department of Commerce, International Trade Administration

Small Business Administration

Small Business Development Centers

Export-Import Bank

Other

22. If "No", why? (Check all that apply)

Services were not available

Our company was unaware these services existed

- These services were not useful
- Other

23. Did you use any services other than government in planning and implementing your export strategies? (Select all that apply)

- Internet
- International Newspapers
- Banks
- Trade or Industry Association
- Private Consultants

24. Which of the following is most important in identifying, screening, and maintaining international marketing opportunities?

- (A) Market prices and demand
- (B) Information about competitors
- (C) Information about regulations, changes to regulation, and exchange rates
- A and B
- All of the above

## **SECTION B: INTEREST IN EXPORTING**

If your firm does not currently engage in export sales, please answer the following questions.

25. Our firm is interested in pursuing international marketing opportunities.

- Yes
- No

26. If demand for our product existed on the international market, we would be interested in pursuing it.

- Yes
- No

27. If our company had competitive advantages on the international market we would pursue those markets

- Yes
- No

28. Our firm formerly participated in export markets, but no longer does so.

- Yes
- No

**If you answered “Yes” to question 28, please answer the following questions. Otherwise, skip to SECTION C.**

29. Select the best response(s) for why your firm chose to discontinue its involvement in foreign markets. (Check all that apply)
- The transportation costs of international marketing were too high for us to continue offering products abroad.
  - A change in regulations forced our company to discontinue international marketing
  - We ceased global marketing due to lack of demand abroad
  - Exchange rates, tariffs, or other added costs were too expensive for us to sell our product internationally
  - Information about our global markets was too difficult to find and maintain
30. Which of the following describes your firm’s future perspective on foreign markets?
- Our firm has no interest in pursuing foreign markets again.
  - Our firm would potentially re-enter foreign markets in the future, given the right market conditions and information
  - Our firm is currently considering re-entering foreign markets

### **SECTION C: INTERNATIONAL EXPERIENCE**

This group of questions is designed to understand the extent of your company’s international experience and interests in pursuing foreign markets in the future. Unless otherwise noted, please check one response for each question.

31. Choose the statement which best describes your firm’s marketing areas
- We operate solely in domestic markets
  - We regularly participate in foreign markets
  - We are a new entrant to global markets
  - We are evaluating opportunities to begin marketing globally
  - We formerly participated in global markets
32. How long has your firm been operating internationally?
- We have never participated in foreign markets
  - Our firm has begun international sales within the past 3 years
  - Our firm has been marketing internationally for less than 10 years
  - Our firm has been marketing internationally for more than 10 years
  - Our firm has previously participated in foreign markets, but no longer sells globally

33. Select **each** response that describes your firm's international market (Check all that apply)

- |                                   |   |
|-----------------------------------|---|
| <input type="checkbox"/> Canada   | <input type="checkbox"/> South and/or Central America |
| <input type="checkbox"/> Mexico   | <input type="checkbox"/> Pacific Islands              |
| <input type="checkbox"/> Ireland  | <input type="checkbox"/> Japan                        |
| <input type="checkbox"/> England  | <input type="checkbox"/> China                        |
| <input type="checkbox"/> Germany  | <input type="checkbox"/> Middle East                  |
| <input type="checkbox"/> France   | <input type="checkbox"/> Former Soviet Union          |
| <input type="checkbox"/> Spain    | <input type="checkbox"/> Other Asian Countries        |
| <input type="checkbox"/> Portugal | <input type="checkbox"/> Other                        |

34. Do any of your employees have international experience?

- Yes  
 No

**If "Yes", what type of international experience?**

- Foreign Language  
 Previous experience in exports  
 Foreign Travel  
 Other

35. The following response is based on a scale of 1 to 5, where **1=many and 5=none**. Select the range which best describes your company in each situation.

- |   | <b>1</b>                 | <b>2</b>                 | <b>3</b>                 | <b>4</b>                 | <b>5</b>                 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Our firm receives sales proposals from international companies  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Our firm approaches foreign companies for sales and new markets | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

36. Select the range which best explains the percentage of your firm's total sales that are marketed internationally.

- Less than 10%  
 11-20%  
 21-50%  
 Over 50%

37. The following questions are statements based on a 1 to 5 scale (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). These questions are designed to identify your firm's **international experience** and future objectives in global markets. (Check one response for each statement)

	1	2	3	4	5
Our firm currently has a method of monitoring and evaluating the decision to market globally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We are currently looking to pursue new foreign markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over time, we have continuously increased our foreign markets to include more areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over time, we have continuously introduced more products to international markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have progressively learned new techniques about international marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information constraints have prevented us from operating efficiently in international markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### SECTION D: ACCESS TO INFORMATION

This set of questions addresses areas where the lack of information affects the performance of your firm. After reading each question please think to yourself “Is this a major problem for my firm?” The questions apply to both domestic and international markets as a whole. Please select one response for each question.

38. The following questions are for all participants. These questions are based on a scale from 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). Please select the best response in regards to your company’s perceptions.

	1	2	3	4	5
Our firm currently has a strategy to collect and maintain up to date market information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying and establishing new markets for my company is hindered by a lack of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our company has forgone opportunities in markets because we did not have enough information about the market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- We do not have adequate access to mass media technologies (such as the internet) to acquire information about markets
- Finding information about consumer wants and needs is difficult
- Identifying potential and new customers is difficult due to the lack of information
- Finding information about the potential for new products is difficult and/or costly
- My company does not have enough information about its competitiveness in a market
- It is more difficult to find information about international markets than U.S. markets
- Once the foreign market is identified, our firm has trouble finding information for market selection and selection of marketing strategies
- Our firm has trouble maintaining up-to-date information about its international markets
- Prospective **foreign** customers **do not** have enough information about our product
- Prospective **U.S.** customers **do not** have enough information about our product

## SECTION E: MARKET CONDITIONS

These questions identify characteristics of market demand and supply for your firm's products as well as the competitiveness of your company in domestic and international markets. Please answer each question to the best of your knowledge.

39. Demand for our product exists: (Select all that apply)

- Locally
- Regionally
- U.S. Domestically
- Globally



40. How would you describe the **domestic** supply of your product relative to its **domestic U.S.** consumer demand?

- Product supply meets its market demand
- Product supply is in excess of market demand
- Market demand for our product exceeds its supply

41. How would you describe the **global** supply of your product relative to its **global** consumer demand?

- Product supply meets its market demand
- Product supply is in excess of market demand
- Market demand for our product exceeds its supply

42. The following questions about **market demand** are based on a scale of 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). Please check one response for each question.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
We have specific techniques for identifying and assessing demand for products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have identified specific domestic locations that exhibit demand for specific products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demand for our product could exist in foreign markets, but we do not currently pursue those opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic demand for our product is expected to increase in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foreign demand for our product is expected to increase in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our firm chooses markets based on existing demand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our firm first chooses a market then creates a demand for the product within that market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

43. Please select the statement which best describes how market regulations affect your company.

- (A) Regulations and/or government policies hinder our competitiveness

- (B) Regulations and/or government policies enhance our competitiveness
- (C) Regulations prevent us from entering some markets
- A and C
- B and C

44. Please respond to the following statements on a scale of 1 to 5 (**1=very much; 5=not at all**).

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The markets in which we compete are heavily regulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Country-specific regulations, tariffs, and/or fees factor into our decision to enter a foreign market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contract laws in some foreign markets are not strict enough for us to pursue those sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

45. Select the response which best describes the market for your product.

**i. Domestically**

- We are the only seller, offering our product to a few buyers
- We are the only seller, offering our product to many buyers
- The market for our product includes many sellers and few buyers
- The market for our product includes many sellers and many buyers
- We face little to no competition for our product

**ii. Internationally**

- We are the only seller, offering our product to a few buyers
- We are the only seller, offering our product to many buyers
- The market for our product includes many sellers and few buyers
- The market for our product includes many sellers and many buyers
- We face little to no competition for our product

46. How do customers perceive your product?

- Our product is highly differentiated
- Other sellers offer similar products, but ours is slightly differentiated
- Our product is easily substitutable with other products

For the following questions, if you do not participate in international markets, simply omit the response for “internationally”. Thank you.

47. On a scale of 1 to 5, where **1=lower priced and 5=premium priced**, how would consumers rate your product?

1 2 3 4 5

Domestically

Internationally

48. On a scale of 1 to 5, where **1=common good and 5=specialty good**, how would you describe your product?

1 2 3 4 5

Domestically

Internationally

49. On a scale of 1 to 5, where **1=average quality and 5=highest quality**, how would your customers describe your product quality?

1 2 3 4 5

Domestically

Internationally

50. On a scale of 1 to 5, where **1=general customer base and 5=specific, targeted customer base**, how would you describe your customers?

1 2 3 4 5

Domestically

Internationally

51. The following questions about **market competition** are based on a scale of 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**).

1 2 3 4 5

Our company tailors its competitiveness for the needs of the market **after** selecting the market

Products similar to ours are sold in the geographic regions where we market our product

My firm is able to clearly identify its competitive advantages in a market

Competition forced or is forcing our company out of international marketing

52. Which of the following best describes your firm's pricing mechanisms?

- (A) We accept the market price for our products
- (B) Our firm has some degree of power over the price **we charge** for our products
- (C) Our firm has some bargaining power over the price **we pay** for input products
- A and C
- B and C

53. Please select **all of the responses** which describe your firm.

- Our firm is responsible for the production of raw materials used for our products
- Our firm buys the raw materials used in our production process
- Many firms supply the input products we need for processing
- Our firm is responsible for its own processing, distribution, and retailing of output products
- Our firm contracts with outside firms for the distribution and/or retailing of our products

53a. If your firm contracts with outside firms are any of those firms internationally owned?

- Yes
- No

54. Select **all responses** that describe the competitiveness of your firm

Our firm has a competitive advantage:

- In terms of price/cost advantages
- In the quality and/or special features of our product
- In our ability to meet niche market demands
- Because our pricing and production strategies will affect rivals' prices or production volumes
- Because changes to our pricing or production will affect the entire market for our product

55. Select **all responses** that best describe the competition your firm faces. (Check all that apply)

- Our firm faces competition from smaller sized U.S. based firms

- Our firm faces competition from larger corporate U.S. based firms
- Our firm faces competition from foreign imports from Mexico and Canada
- Our firm faces competition from foreign imports beyond Mexico and Canada

56. On a scale of 1 to 5, where **1=above average and 5=below average**, how would your firm rank the market growth for your products?

**1    2    3    4    5**

Domestically               

Internationally               

57. On a scale of 1 to 5, where **1=high potential and 5=no potential**, how would you rank your firm's potential to gain a significant market share?

**1    2    3    4    5**

Domestically               

Internationally               

58. On a scale of 1 to 5, where **1=appealing and 5=unappealing**, how would you rate the prospective sales opportunities in new markets for your product?

**1    2    3    4    5**

Domestically               

Internationally               

## **SECTION F: PERCEPTIONS OF INTERNATIONAL MARKETS**

These questions address some issues which might prevent your business from pursuing global markets.

59. The following questions are based on a scale of 1 to 5 (**1=strongly agree, 2=somewhat agree, 3= unsure, 4=somewhat disagree, 5=strongly disagree**). Please consider whether the statement reflects how your company views international sales compared to domestic sales.

**1    2    3    4    5**

- International sales carry a higher risk than domestic marketing
- Our company believes the profitability of international sales would be less profitable than domestic sales
- Our firm believes international markets bear higher degrees of competition than domestic markets
- Our company views the costs of international marketing and sales as constraints to entering the global market
- Our company has concluded profits from international marketing would be enough to engage in foreign sales
- Our company views international marketing as a means of diversification for the company

60. In addition to those topics already covered, select all of the following which your firm would consider to be barriers to international markets.

- Management strategies for export activities
- Insufficient capital
- High costs of exporting
- International financing
- Currency rates
- Paperwork (export records)
- Trade barriers and tariffs

Please provide any additional comments or questions you have relative to the survey.

**Thank you for taking the time to participate in our survey! If you would like a copy of the results, please check the box below.**

- Yes, please send a copy of the results to our firm.**

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