FINISHED GOOD SOURCING DECISIONS IN THE US APPAREL INDUSTRY
AFTER IMPLEMENTATION OF THE AGREEMENT ON TEXTILES AND
CLOTHING

DISSERTATION

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By
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ABSTRACT

January 1, 2005 brought the elimination of quantitative restrictions to trade in the apparel industry. Because apparel products are produced in almost every country around the world, the elimination of trade barriers has important implications for apparel sourcing decisions. The research in this dissertation assesses the impact of quota release using two methodologies: interviews of sourcing personnel, which will give a micro-economic view of imports at the company level, and econometrics, which will be used to give a macro-economic view of impacts on the industry. The combination of these two methodologies will give a holistic look at the reduction of trade barriers and their impact on the apparel sourcing decision.

The qualitative data consisted of transcripts from interviews of six sourcing personnel. New themes that emerged from the data included vendor relationships, security of country and natural barriers, such as weather phenomena. External environmental barriers, such as economic, political/legal, and socio-cultural barriers, found in previous research were confirmed by the qualitative data. The quantitative data used for this research was collected from various US and international agencies. OLS regression revealed all variables (difference in GDP, geographical distance, duty, real exchange rate, and quota) to be significant. The regression model does not include the emergent variables, due to the difficulty in quantifying them.
Quota and tariffs were significant factors in the sourcing decision, both in the qualitative and quantitative studies. Quota has an interesting phenomenon occur, in that as quota decreases, US demand for apparel imports increases. This can be seen in the data (import quantity) and can be attributed to confounding variables not included in the model.
DEDICATION

To my husband
ACKNOWLEDGMENTS

This research is a culmination of years of collaboration and support of many researchers, industry leaders, fellow graduate students, family, and friends. I would like to thank my committee, Drs. Loren Geistfeld, Catherine Montalto, and Neal Hooker. Their enthusiasm and interest in this research as well as their invaluable time and input is most appreciated. I would like to acknowledge all of the “technical” assistance I received from Dr. Kathryn Stafford. Her patience answering “rooky” questions, her willingness to assist at any time and her enthusiasm for my research went far above her faculty role. I am also thankful to many fellow graduate students and co-workers that have given technical advice, suggestions, or just listened to issues during the process.

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Concentration Area: International Apparel Trade
Minor Concentration: Agricultural Economics
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CHAPTER 1

INTRODUCTION

The textile and apparel industry accounts for 7.5% of manufacturing in the world and 5.6% of all world trade (World Trade Organization (WTO), 2003; WTO, 2004). Being labor intensive with low barriers to entry, the industry has long played a prominent role as the cornerstone of economic growth in developing and established countries in the world economy. The United States was once a developing economy, and its growth was bolstered by the textile and apparel industry. Trade protection of the apparel industry started in the early 1800s. Quotas, a restriction on the amount of imports allowed, and tariffs, a tax on the value of imports, were the primary protection tools. Even after the US economy matured, the US textile and apparel industry still enjoyed protective trade barriers under the guise of the infant industry argument, which contends that protection is reasonable for smaller start-up industries (Suranovic, 2005). Shortly after WWI, the US and its trading partners decided to implement the General Agreement on Tariffs and Trades (GATT). GATT reduced trade barriers between countries in various industries. The nations adopted the Multi-Fibre Arrangement (MFA) in 1974 to help promote free trade, without causing market disruptions. This had a negative effect, with more rather than less
trade barriers being added. Finally, in 1994, with the MFA expiring, the Agreement on Textiles and Clothing was adopted as a temporary means of reducing trade barriers.

The World Trade Organization (WTO) implemented the Agreement on Textiles and Clothing (ATC) incrementally in four phases. The phase-out included all countries in the WTO and their WTO trading partners. Phase one in the US, from 1995 to 1997, witnessed a reduction in trade quotas on textiles and apparel entering the US from WTO countries, at that time 149 member countries, by 16%. In the second phase, from 1998 to 2001, the quota reduction increased another 17%, and increased another 18% in the third phase from 2002-2004. The forth and final phase applied a landmark 49% quota reduction on January 1, 2005. The repercussions of the phased implementation and the final quota removal will have lasting effects on the economies of countries around the world.

While implementation of the ATC eliminated quotas, it did not eliminate tariffs. Tariffs are significant trade barriers because they add cost to the total garment price. Global and regional trade agreements are used to eliminate tariffs, along with quotas, between the participating countries, decreasing cost and promoting trade among partners. Elimination of tariffs in these trade arrangements and agreements in the framework of GATT promotes free trade and gives the trading partners a competitive pricing edge over external countries that might have a tariff applied to their imports. With the use of tariffs being allowed against WTO member countries’ imports, the incentive for creating trade partnerships under GATT is enormous. US apparel buyers are more likely to source from countries that have fewer trade barriers.
For example, if a country in a regional agreement was a non-WTO member, having no quota and smaller tariffs would make them a more favorable source country than a WTO member with higher tariffs. Elimination of trade barriers will provide many opportunities for companies to purchase/source from suppliers in economies that have not been open to them previously (Sheth and Parvatiyar, 2001) due to access restrictions imposed by trade barriers and the cost that those barriers created. GATT, and now the WTO, provides countries the means to eliminate these barriers and thereby reduce costs.

As the ATC quota reductions were phased in, developed countries, such as the United States, that historically have been large players in the industry, saw dramatic losses in domestic apparel production and increases in imports. Recent research suggests that the industry is in a state of global production shifts. Clark, Kaserman and Mayo (1999) examined the degree to which an industry is vulnerable to imports. Twenty-three of the fifty most vulnerable product categories were in the apparel industry.

With the releasing of trade protections in the United States, a new era is dawning for the global apparel industry, one that has the potential to alter the sourcing process and the global apparel production map. The fate of the apparel industry in developed countries, including the US, hinges on 1) trade agreements that eradicate tariffs for participating countries, and 2) logistics and proximity to market (Nordas, 2004; Hathcote & Nam, 1999). The US and developed countries were powerhouses in global apparel production prior to 1997. With the removal of trade restrictions, developing countries will gain apparel production at the expense of
developed countries (Trela & Whalley, 1990) thus shifting apparel trade flows. Less restricted trade will open the US apparel market to imports from once closed or limited access markets. Retail buyers and sourcing personnel routinely seek new sources of supply that offer better service, cost, and timing, enabling retailers to meet the demands of their customers (Swift & Gruben, 2000). The sourcing process is the group of proactive procurement practices used to decide the where, when, what, how much and from whom to purchase. This process will be affected by quota elimination due to increased product and vendor selection choices in many countries, and unlimited importable quantities from both new and established trading partners.

PROBLEM STATEMENT

The opening of trade routes due to quota elimination allows for more choices when sourcing apparel products. With the protective quotas being eliminated, industry-wide changes in buying decisions of corporate sourcing personnel will likely cause a shift in apparel production centers. Just how this shift will occur and which countries will become the major exporters to the United States has yet to be determined. The elimination of quotas has prompted questions as to the extent quota elimination will change the sourcing processes at the company level and trade flows at the industry level; however, there are few empirical studies examining the effects of trade agreements on sourcing decisions. Therefore, research in global sourcing in regards to the impact of quota elimination needs careful study.

SIGNIFICANCE

In 2002, the global textile and apparel business was a $353 billion dollar industry (WTO, 2003). In 2003, that number jumped to $395 billion in world trade
The US share moved from $16.7 billion in exports and $83.73 billion in imports in 2002 to $16.46 billion in exports and $89.57 billion in imports in 2003. Current industry statistics show that US apparel imports have increased 73% with exports decreasing by 17% from 1997 to 2003, giving the US apparel industry a $61 billion trade deficit (Office of Trade and Economic Analysis (OTEA), 2004). With imports dominating such a great portion of the US apparel industry, the elimination of quotas may further increase import quantity and the trade deficit.

PURPOSE

With this in mind, the purpose of this dissertation is to examine what impacts the removal of quotas under the ATC had 1) on the decision process of industry sourcing personnel, and 2) on industry demand for imports. The changes in sourcing decisions based on the quota reductions will be studied from two perspectives: the particular company and import demand in a particular segment of the apparel industry. Two research objectives address each of these perspectives.

The first objective employs a qualitative approach to investigate the way in which a particular company’s sourcing personnel reacted to the changes in the quota system. Individual sourcing personnel were interviewed to reveal how they perceived the initial quota reductions, how those reductions informed their sourcing decisions, and how the current lack of quotas has altered their buying approach. The focus is on the changes in production locations (countries) and the quantity produced in those locations. The qualitative component of this research is significant because it highlights the impact of quota elimination on the buying decisions made by apparel
sourcing personnel. This research will assist apparel firms in effectively shaping their sourcing strategies in the global marketplace.

Broadening the scope of the research, the second objective explores how the phased implementation of the ATC has impacted industry demand and uses an empirical approach to analyze data from published industry and governmental sources. In particular, this study examines the t-shirt sector of the apparel industry to demonstrate the effects of the ATC. The purpose of the quantitative research is to assess the industry’s import demand shifts due to quota elimination. This kind of research is significant because it enables the researcher to provide data that will assist in trade policy implementation on an international scale. Predicted changes in trade flow patterns will also assist industry leaders when they make strategic sourcing decisions involving production.

Exploring both the company-level and industry-wide impact of the ATC quota elimination will validate the idea that global shifts in production are occurring, and will provide empirical evidence to demonstrate the industry-changing impact that the opening of trade has both on sourcing decisions and industry demand in the textile and apparel industry.

STRUCTURE

This dissertation consists of two research studies, in which the impact of the change in import barriers on 1) decisions of sourcing personnel and 2) apparel industry demand for imports will be analyzed. The research assesses the impact of import barriers on the purchasing decision process and industry demand via changes in bilateral trade flows. Chapter 2 provides background for the study. The qualitative
study is described in Chapter 3 and the quantitative in Chapter 4. Chapter 5 presents results for each of the studies. The final chapter, 6, discusses the results and concludes with a discussion integrating the qualitative and quantitative results.

**DEFINITION OF TERMS**

**Agreement on Textiles and Clothing (ATC)** - created in 1994 to temporarily replace the MFA and to bring the textile and apparel industries into compliance with General Agreement on Tariffs and Trade (GATT) rule.

**Commodity chains** - include a range of activities “involved in the design, production, and marketing of a product” (Gereffi, 1999).

**Developed countries** - countries that have relatively high standards of living noted by high gross domestic product (GDP) per capita and high levels of “physical and material well-being” (Dickerson, 1999).

**Developing countries** - countries that have an undeveloped industry base and a relatively low standard of living with lower income level (Black, 2002).

**General Agreement on Tariffs and Trade (GATT)** - agreement originating in 1947 to promote international discussions to reduce tariffs and to provide a means by which trade disputes were resolved (Center for International Earth Science Information Network (CIESIN), 2005).

**Harmonized Commodity Description and Coding System (HTSUS)** - a classification system used internationally that permits the systematic coding of goods to afford a common language among importing countries.
Most favored nation (MFN) - status given by the US to countries that enter a reciprocal bilateral trade relationship where tariffs are applied equally among member countries (G.I.A. Group, 2006).

Multi-Fibre Agreement (MFA) - originated in 1974 as a method to systematically open markets by releasing quota, without causing market disruptions for apparel manufacturers and marketers (Nordas, 2004).

Non-tariff barrier (NTB) – mechanisms (other than the typical tariff barriers) to slow or prevent import trade, such as quota, state subsidies, and intellectual property laws.

Protectionism - originated in the 1800s in the US apparel industry, by which several trade mechanisms are used to protect the struggling infant industry.

Quota - quantitative restrictions placed on import quantities restricting the amount of imports allowed; is also an NTB.

Sourcing - the process of seeking the best supplier in price and service for a given product (Swift & Gruben, 2000).

Subsidy - a government payment to producers that makes the cost received by producers larger than the market price (Black, 2002).

Tariff - monetary restrictions in the form of a tax, imposed on imported goods to help protect a domestic industry against foreign competition.

Tariff-rate quotas (TRQ) - a trade barrier that combines both a tariff and quota to protect the domestic industry. Goods are allowed to enter under the quota portion under a lower or no tariff rate. After quota is filled, imports are allowed at a higher tariff rate. Typically used for cotton imports (ITDS, 2004b).
World Trade Organization (WTO) - originated in 1995, succeeding GATT, to maintain the governing principles of the original GATT (WTO, 2005b); currently 148 member countries.
CHAPTER 2

BACKGROUND

HISTORICAL INDUSTRY DEVELOPMENT

The process of producing apparel is very labor intensive even today, despite mechanization of many manual processes. In the mid 1700s, mechanization of spinning and weaving processes were introduced in England. These advances were relegated to England until 1789 when Samuel Slater, a British mechanic, brought the technology to the US and created the first domestic spinning mill (Burns & Bryant, 2002, p.5). Automation of textile processing continued throughout the next century; however, sewing of the fabric into garments was still done by hand. The ready-to-wear (RTW) industry emerged in the early eighteenth century with men’s wear. Prior to this, suits were hand sewn for men by tailors in small shops. The demand for ready-made apparel grew in the early 1800s (Burns & Bryant, 2002, p.7). Not until the first automated sewing machine was invented in 1832, could the sewing process keep up with the demand for cheaper, ready-to-wear clothing.
Size standardization and the invention of patterns, in the late 1800s, helped the progression of RTW (Burns & Bryant, 2002, p.8). Together, these factors propelled the industry toward mass production of clothing. Mass production of apparel started during the early 1900s, using immigrant workers (Burns & Bryant, 2002, p.11). Throughout the 1900s, the US industry evolved into a textile and apparel production powerhouse. The apparel production side of the industry started to see a decline in employment in the 1970s, with production of goods being sourced from foreign countries. The US textile industry started to see a decline in employment in the late 1980s. This decline in domestic production marked the increase in debate about trade protectionism for labor-intensive industries that are vulnerable to cheaper labor offshore.

**PROTECTIONISM HISTORY**

Trade protection in the US textile and apparel industry began in the early 1800s to protect a struggling infant textile industry (Dickerson, 1999). Trade barriers were used as a means to protect the domestic industry of the developing country from imports (Dickerson, 1999). In the 1900s, trade barriers became a way for richer countries, which had lost their comparative advantage in apparel production, to protect the industry from lower-cost foreign competition. Import barriers, such as quotas and tariffs, have been used to protect industries seen to be vulnerable to foreign competition. Quotas are a numerical restriction placed on the amount of imported goods, while tariffs are taxes assessed on imported goods by the government of the importing country (Markesun, Melvin, Kaempfer & Maskus, 1995). Tariff-rate quotas, a combination of the two, are also used as a trade barrier.
They allow a certain amount of goods to enter the US at a lower tariff. Once quota is filled, a higher tariff is assessed to those goods over quota rate (ITDS, 2004b).

The origins of the GATT began after World War I, when trade barriers increased to record levels. The Smoot-Hawley Tariff Act in 1930 set off a trade war increasing average tariffs from 14% to a record 52% (Bagwell & Staiger, 2000). In 1934, the US implemented the US Reciprocal Trade Agreement Act to stem the tide of high tariffs and create a means to negotiate lower tariff rates. By offering reductions in tariffs, the US very successfully encouraged its trading partners to reciprocate by lowering tariffs. These successes lead to the creation of a multilateral institution that could build on these reciprocal agreements (Bagwell & Staiger, 2000). In 1946, negotiations began to form the International Trade Organization (ITO). The GATT was an interim agreement created in 1947 while the ITO was being negotiated. Although this was intended to be an interim arrangement, the US Congress never ratified the ITO, thus all future trade negotiations occurred under the GATT framework (Bagwell & Staiger, 2000).

**GATT AND THE WTO**

From its inception in 1947, the GATT rules governed trade of goods (WTO, 2005b) for over 50 years. The agreement was designed to encourage international talks to reduce tariffs and provided a means by which trade disputes were resolved (Center for International Earth Science Information Network (CIESIN), 2005). When the WTO was founded in 1995, succeeding the GATT, it maintained the governing principles of the original GATT (WTO, 2005b). Currently, 148 countries are members of the WTO, with another 30 negotiating membership.
Most Favored Nation (MFN) status, since 1998 called NTR (Normal Trade Relations), was given to all nations by the US in 1948, at the inception of GATT (International Trade Data System (ITDS), 2004a). Communist countries had their MFN status revoked in 1951 and continued to operate without MFN status through the Cold War (ITDS, 2004a). MFN/NTR mandates that 1) both countries in a bilateral trade relationship enter into a reciprocal agreement in which tariffs are applied to imports, and 2) the US will apply tariff rates equally to all NTR countries. Special allowances are made for trade agreements (a multilateral or bilateral treaty between two or more countries agreeing to specific trade terms) (G.I.A. Group, 2006). However, each country must negotiate its agreement separately. Within these negotiated MFN agreements, special provisions are allowed for national security, trade promotions, and dispute settlement procedures (ITDS, 2004a). The US has two basic requirements when allowing MFN status; 1) comply with Trade Act of 1974, Jackson-Varik provisions, which states that citizens cannot be denied the right to emigrate, and 2) a country must reach a bilateral agreement with the US (ITDS, 2004a). MFN status may be permanent or renewed on a yearly basis. In recent years, before China acceded to the WTO in 2002, a yearly waiver was applied for China to continue its MFN status with the US.

The GATT principles mandate that any trade barriers used in international trade be transparent. Quotas are somewhat transparent; however, the process in which they are administered and communicated is not clearly defined and differs between countries. Tariffs are a trade barrier that is transparent and legal under the GATT. Even though WTO members have eliminated quotas, the use of tariffs is still
an option in the form of a tariff-rate quota. These quota rates are negotiated in the trade agreement, thus allowing the use of a form of quota in trade.

AGREEMENT ON TEXTILES AND CLOTHING

The Agreement on Textiles and Clothing (ATC) is the most recent in a long line of protective measures in the apparel industry. The ATC was fully integrated into the GATT on January 1, 2005. Therefore, tariffs, a more transparent barrier, may be applied to imports rather than quantitative, less transparent restrictions such as quotas, which are considered illegal.

The ATC evolved from an earlier trade agreement, the Multi Fibre Agreement (MFA). To promote free trade, in 1974, the MFA was created as a method of systematically opening markets, which were restricted by quotas, to apparel marketers and manufacturers, while avoiding market disruptions (Nordas, 2004). Since the theory of market disruptions was underdeveloped, the MFA was allowed to restrict market access in the textile and apparel industry for the next 20 years.

In 1994, the ATC was created to temporarily replace the expiring MFA. The goal was to bring the textile, and apparel industries into compliance with the GATT rule. It was created to systematically eliminate textile and apparel quotas for trade between all member countries of the WTO. This systematic elimination was to occur in four phases over a ten-year period to alleviate market disruptions in countries complying with the integration.

The first phase was to occur from January 1, 1995 to December 31, 1997, and included a reduction of quotas on 16% of the import volume using 1990 imports as the baseline (WTO, 2005c). For the first three phase-outs, these reductions had to
cover a percentage of four textile and apparel categories. The second phase-out occurred from January 1, 1998 to December 31, 2001, and included 17% of import volume (again 1990 baseline) not under the GATT rule (WTO, 2005c). The third phase-out integrated another 18% of 1990 import volume from January 1, 2002 to December 31, 2004 (WTO, 2005c). The final phase out was completed January 1, 2005, and was to integrate the remaining 49% import volume of products into GATT regulation (WTO, 2005c).

During the phase-outs, a provision called safeguards was designed to alleviate market disruptions in the country that is integrating product into GATT regulations. Safeguards are the means by which countries could place temporary quotas on importing countries’ goods that were deemed by the WTO governing council to be causing a market disruption in the importing country (WTO, 2005c). These measures are temporary and must be shown to be a means to help curb surging imports, which cause market disruption to the domestic industry. Safeguards can be negotiated between the countries involved or unilaterally adopted. The Textile Monitoring Body in the WTO (WTO, 2005c) monitors the placing of safeguards on a global basis and must approve their use. During 2005, US and EU trade safeguards in the form of quotas were placed on many textile and apparel products imported from China. Those categories affected by the US safeguards can be seen in Table 2.1.
<table>
<thead>
<tr>
<th>Date of Safeguard</th>
<th>Category</th>
<th>Description</th>
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<tr>
<td>5/27/05</td>
<td>301</td>
<td>Combed cotton yarn</td>
</tr>
<tr>
<td>5/23/05</td>
<td>338/339</td>
<td>Cotton knit shirts and blouses</td>
</tr>
<tr>
<td>5/27/05</td>
<td>340/640</td>
<td>Men’s and boys’ cotton and man-made fiber shirts, not knit</td>
</tr>
<tr>
<td>5/23/05</td>
<td>347/348</td>
<td>Cotton trousers</td>
</tr>
<tr>
<td>8/31/05</td>
<td>349/649</td>
<td>Cotton and man-made fiber brassieres and other body supporting garments</td>
</tr>
<tr>
<td>5/23/05</td>
<td>352/652</td>
<td>Cotton and man-made fiber underwear</td>
</tr>
<tr>
<td>8/31/05</td>
<td>620</td>
<td>Other synthetic filament fabric</td>
</tr>
<tr>
<td>5/27/05</td>
<td>638/639</td>
<td>Man-made fiber knit shirts and blouses</td>
</tr>
<tr>
<td>5/27/05</td>
<td>647/648</td>
<td>Man-made fiber trousers</td>
</tr>
</tbody>
</table>

Table 2.1: US Apparel Safeguards 2005 (CITA, 2005a)

Safeguards are being used as a means to slow the disruption to the US apparel market, but also serve as a tool for the US to protect other developing country markets as a result of the flood of Chinese imports entering the US immediately following quota elimination (ITC, 2005). The temporary quota limits that were put in place were expected to be filled before the end of the year, with some categories, such as 338/339 t-shirts filling as quickly as two months (DesMarteau, 2005). After quota was filled, goods were embargoed and had to wait until the expiration of the safeguard on December 31, 2005. However, in 2006 an agreement between the US
and China was developed to limit import levels on many apparel categories, including those with safeguard quota in 2005 (CITA, 2005b).

**COTTON SUBSIDIES**

Like apparel, raw cotton is also undergoing integration into GATT; however, the discussions, negotiations, and agreements are much more complex with cotton, as it is being treated as an agricultural product instead of a manufactured good. This difference in classification means a different integration schedule and an added trade barrier, subsidies. A subsidy is “a payment by the government to consumers or producers, which makes the factor cost received by producers greater than the market price charged by producers” (Black, 2002), thus creating a barrier to trade. Subsidies can be in a form of domestic support, a subsidized export quantity, or a value of export subsidies (WTO, 2005d).

As the building block of textile and apparel goods, the cotton trade is important to the cost of the final apparel product. Cotton is also being integrated into the GATT, depending on a country’s developmental status. The integration for a developed country was to take place over a 6-year period, 1995-2000, with tariffs being cut an average of 36% overall with a 15% decrease per product. Domestic support for farmers was to be decreased by 20%, with the value of export subsidies being decreased 36%, and subsidized quantities being decreased by 21%. For developing countries, the integration was to occur over a 10-year period, 1995-2004. Tariffs were to be decreased an average of 24% with a 10% minimum for each product. Domestic support was to be decreased by 13%, with the value of export subsidies being cut 24%, and subsidized quantities decreasing by 14%. With
decreasing cost due to the integration of cotton and shifting world production, the integration is an important component in the apparel sourcing decision. The decision of where finished good production occurs may depend on where fiber production is happening, which decreases the overall cost to produce.

CURRENT INDUSTRY STRUCTURE

While protectionism in the US apparel industry has a long-standing history, a global shift to reduce and eliminate trade barriers has escalated and the ATC has created a change. January 1, 2005 brought the elimination of quantitative restrictions on apparel imports globally for WTO member countries and a possible shift in the manner in which sourcing decisions are made. Research has suggested that by removing quotas, apparel production in China will increase by 70%, and other Asian countries will increase production by 26% (USITC, 2004). North American production is expected to decline by 19%, and European production by 11% (USITC, 2004). Overall, developing countries are expected to see a 4% increase in world apparel market share (USITC, 2004). These statistics suggest significant world production shifts, in terms of where retailers will be procuring goods due to the quota elimination. A large amount of production is shifting to lower-cost countries that have few or no trade barriers, giving them a comparative advantage over developed, or developing countries with higher wages, with or without trade barriers.

Globalization has affected the apparel industry through the reduction of barriers and decreasing regionalization of production (Gereffi, 2001). It has been postulated that “without quotas, [corporate] customers will no longer need to divide their orders among several countries, but will concentrate in those countries where
they can operate best” (USITC, 2004). As a result, companies will have an expanded set of countries from which to source, but can narrow the number of countries and/or companies needed to produce the goods. Exports from NAFTA countries, Latin America, and the EU are expected to decrease by 27%, 39%, and 19% respectively, after the removal of quotas (USITC, 2004). Apparel exports from Asian countries, China and South East Asia are expected to increase by 18%, 87% and 36%, respectively, after the removal of quotas (USITC, 2004). Such dramatic changes signal a fundamental change in the dynamics of buying and sourcing decisions.

APPAREL COMMODITY CHAINS STRUCTURE

Labor-intensive and low-cost, the apparel industry has traditionally used a buyer-driven commodity chain model. “A commodity chain refers to the whole range in activities involved in the design, production, and marketing of a product” (Gereffi, 1999). Buyer-driven commodity chains are decentralized production chains that coordinate production between apparel marketers, retailers and branded manufacturers with producers, typically located in third world countries (Gereffi, 2001). Gereffi has developed a framework that provides an explanation of the flow of goods within the chain. He postulated three types of retailing formats in the US apparel industry at the end of the commodity chain: marketers, retailers, and branded manufacturers.

Apparel marketers are apparel companies that design and market apparel but rely on outsourced manufacturing. Retailers buy apparel from manufacturers and are primarily responsible for the sale of the goods, but have limited control over the design of the product. Branded manufacturers, historically, own their own production
facilities and are responsible for the design, production, and marketing of their
product; however, in the past 10 years many branded manufacturers have sold their
production facilities and are acting more like marketers by outsourcing production.

In a buyer-driven commodity chain, the factories are often not in direct
contact with the marketers, retailers and branded manufacturers that are ordering the
production. However, there has been a shift from decentralized to centralized
sourcing in the buyer-driven commodity chain with US apparel firms moving to
centralized sourcing on a global scale as opposed to decentralized domestic sourcing
(Sheth & Sharma, 1997). Decentralized sourcing is where an apparel company uses
agents or intermediaries to outsource production to many producers and the
originating party does not know many of these producers. It is more of an
administrative function, whereas centralized sourcing brings the production
placement to one centralized party, who maintains direct relationships with reliable
suppliers. Centralized sourcing is more strategic and uses relationship-based sourcing
(Sheth & Sharma, 1997), which is a consolidation of operations through the
centralization of resources and decisions, and creates efficiencies in the commodity
chain. The buyer-driven commodity chain reflects this consolidation of sourcing
operations and has become more centralized and relationship-based (Gereffi, 1999).
This change reflects the competitive nature of the industry and retailers, marketers
and brand manufacturers, who are finding it necessary to adopt a centralized sourcing
strategy to compete.

With the streamlining of commodity chains and evolving worldwide sourcing,
changes in the decision process are generated by performance breakthroughs such as
material cost savings, quality improvements, and better supplier responsiveness and technology (Trent & Monczka, 2003b). Research shows that by implementing global sourcing strategies instead of the conventional regional or the domestic sourcing strategy, material costs can be decreased by 15% (Trent et. al, 2003b). An effective global sourcing strategy in the commodity chain will have an effect on the purchasing decision; however, the recent changes in commodity chains have made it difficult for companies to develop effective global sourcing strategies. The shift in commodity chains prior to quota elimination has occurred due to the rise of cheaper overseas competition, which shifted production from domestic producers to more cost-competitive offshore manufacturers. Quotas have been used to stem the tide of lower cost, overseas imports. Gereffi (1999) has researched the apparel industry and its shifting global commodity chains.

SHIFTING COMMODITY CHAINS

As of January 1, 2005, apparel has not been treated as a special trade case needing protection. Because eliminating trade protection in the apparel industry opens the door to imports from developing countries, it is expected that GATT implementation influences the way American sourcing and buying personnel make daily purchase decisions. The decisions change because government policies affect ability/attractiveness of country of production change, thereby affecting production centers, apparel employment, and ultimately consumer apparel prices.

With the elimination of quotas on apparel, 2005 brought a consolidation of sourcing operations (N.S.M., 2004), and thus streamlined commodity chains. “I may have 25 suppliers today for my knits and in the future, I’ll need five” (N.S.M., 2004).
According to the industrial buying literature, buying decisions behind these sourcing operations are driven by individual and environmental influences (Kotler, 2000; Webster & Wind, 1972). External influences, like quotas, tariffs, and distance, cannot be controlled by the decision maker and therefore constrain certain aspects of the decision process and affect the ultimate decision. With the elimination of some of these external influences, the shifting of the commodity chain will be seen in shorter production times, decreased cost, and more dynamic choices, which will form a more efficient supply chain.

**CURRENT TRADE BARRIERS**

The US textile and apparel quota and tariff system is complex, and some have called the system opaque. Classification of US imports of textiles and apparel is the responsibility of the importer and is used to assess duty and monitor quota. The classification system used worldwide is called the international Harmonized Commodity Description and Coding System (HTSUS). The international system permits the systematic coding of goods using a common language among importing countries. This eliminates time and excessive complications by the importing country when assessing duty and monitoring quota.

In the US, quotas are established by Presidential proclamations and legislation. The Department of Commerce, with the Office of the US Trade Representative, establishes and fixes quota rates for each HTSUS classification. The US Customs Service monitors and controls quota fill rates. Quotas for a classification are typically open for a year and are opened at a specified time so all countries have
equal importing advantage (USCBP, 2005). Once quotas in that classification are filled for the year, any other imports of that good are prohibited from entering the US.

Tariff-rate quotas (TRQ) are established by Presidential proclamations that are negotiated under the Trade Agreement Act (USCBP, 2005). TRQs are administered by the US Customs Service and are dominant in cotton importation; however, tariff rates negotiated under trade agreements such as NAFTA act like a TRQ without being labeled as such (USCBP, 2005). TRQs are a combination of a quota and tariff. Goods are shipped in under a quota level that has a minimal, if any, tariff associated with that quantity of goods. Goods shipped over the quota amount will have a much higher and restrictive tariff rate applied.

The US Bureau of Customs and Border Protection administers tariffs and is responsible for assessing the final value of the goods and for securing the final HTSUS classification (USCBP, 2005). MFN tariff rates are the amount of tariff accorded to all WTO member countries. However, countries that have trade arrangements or agreements with the US may have a special (lower) duty rate. This lower duty rate is negotiated for a specific quantity of goods. After the negotiated amount has been imported into the US, the duty rate increases, although the increased rate is typically lower than other TRQ rates that may involve a MFN country.

Trade barriers are key considerations for personnel in sourcing and buying functions in individual firms in the industry. This is due to the impact these barriers have on various outcomes, such as price.
SOURCING

Sourcing can be defined as the process of seeking the best supplier in price and service for a given product (Swift & Gruben, 2000). Global sourcing “involves proactively aggregating volumes and coordinating common items, practices, processes, designs, technologies, and suppliers across world-wide procurement, design, and operating locations” (Trent and Monczka, 2002). A buying approach is a culmination of the industrial buyer’s numerous activities and processes that go into a purchase decision (Bunn, 1994). The buying approach defines the method of sourcing, the “optimal supplier”, and can be different for different purchasing situations or sourcing decisions (Shahadat, 2003). According to Kotabe, Murray and Javalgi (1998), global sourcing “requires proactive decisions about where, when, what, how much, and from whom to buy” (p.11)

SOURCING VS. BUYING

In the apparel industry, sourcing and buying of apparel are regarded in the same vein: to get the right product produced and to the stores for the lowest possible cost. There are similarities in the job functions in the apparel industry, but there are differences as well. Buying is the procurement of finished goods, and sourcing is the integration of the production process through vertical integration and/or outsourcing with the purpose of producing finished goods. The buying process is a “functional activity,” whereas sourcing is represented as a “strategic direction and organizational process” (Trent & Monczka, 2003a). The buying process seeks out products, negotiates cost, and has goods transported to stores to fill store capacity. The process is more reactive and manages risk for a particular product line, instead of the much
larger scope sourcing provides. In the sourcing process, sourcing personnel work
with designers and buyers and coordinate fabrics and materials, technologies, and
operating locations (Trent & Monczka, 2003a) for a number of product lines, thereby
obtaining a much lower cost than the individual buyer. Buyers typically take on the
sourcing role in smaller apparel companies, while larger companies have dedicated
sourcing departments.

SOURCING VARIABLES IN THE APPAREL INDUSTRY

The 1990s saw some attention in the literature pertaining to sourcing decisions
and frameworks; however, very little of it was apparel specific. Shahadat (2003)
found the most important variables to Bangladesh (non-apparel) sourcing persons
were price and timely delivery. In a quantitative study of UK retail buyers, cost,
work quality and delivery time were found to be important variables (DaSilva &
Davies, 2002). A Canadian qualitative research project found three major themes to
be important among its respondents: the selection process itself, labor and material
cost of the product, and product sourcing cost for personnel and travel (Wall,
Sommers & Wilcock, 1994).

Research found that US companies typically use a traditional sourcing model,
in which the decision is based on the lowest cost supply source (Trent & Monczka,
2003b). The literature also illustrated that cost of a product can have a large impact
on a firm’s cost structure (Trent & Monczka, 2003b). There is a definite need to
control the total cost of the product through attention to delivery, product cost,
sourcing cost (Trent et al, 2003b) or lot size (Handfield, 1994). Trade barriers were
another variable found to influence cost and sourcing decisions (Motwani & Ahuja,
In an ever-changing industry, strategic advantage and competitiveness are integral to success. Motwani & Ahuja (2000) found low prices to have a significant impact on strategic advantage, with a decrease in delivery time to the customer also influencing competitiveness. When industrial buyers source product from new countries, six prominent variables show up in the literature as critical decision criteria: labor costs, tariffs, quotas, product quality, lead-time, and exchange rates (Hathcote & Nam, 1999).

SOURCING BARRIERS

Sourcing barriers have two forms: internal barriers, those controlled by a company, and external barriers, those outside the control of the company. Trade barriers, a type of external barrier, have proven an effective way for countries to restrict the flow of goods into their country. Restrictive barriers, such as quota and tariffs, are a means of controlling trade balance with free trade allowing non-restricted trade to occur. External barriers are used by most countries, and due to their impact on imports into a country, they affect trade flows. Geographical distance can also be an external sourcing barrier, adding time and cost to the shipping of the goods. Barriers in communication can also affect the sourcing process in the form of cultural and language differences. Internal sourcing barriers include price, quality, and speed to market. These barriers are determined by the individual company and are used to shape the sourcing strategy.

QUOTAS

Quotas are at the heart of the discussion about sourcing decision changes resulting from WTO implementation in 2005. Countries that are not members of the
WTO are still eligible for quotas to be placed on their products being imported into the US. With quantitative restrictions lifted on the major apparel producers in the world market, total US import values will change as a result of the predicted shifts in sourcing of apparel. It is projected that wholesale apparel prices will decrease due to the removal of quota premiums and increased competition, and as a result, demand for imports will increase (A&A, 2005). It is anticipated that the decrease in wholesale price will save US consumers upwards of $13 billion (TDC, 2005).

Trade barriers, especially restrictive quotas, have been key sourcing barriers (Motwani & Ahuja, 2000). With the government elimination of quotas as a variable in the sourcing decision, they become a moot point for those countries with WTO membership. For non-WTO members (See Appendix 2), however, quotas will still be in effect, and therefore will continue to be a factor in the sourcing decision. However, all of the top 10 apparel producers (Mexico, China, Hong Kong, Taiwan, South Korea, Dominican Republic, Philippines, Indonesia, Honduras, and India (OTEXA, 2005)) are WTO members who can produce and ship without restrictive quotas.

Research has shown that countries without quota limits prior to 2005 (such as Mexico) will lose market share after the 2005 elimination, while those being restricted before 2005 (such as China and India), will experience a gain in market share after the elimination (Nordas, 2004). This movement in market share is due to the opening of once restricted trade partners (China and India) that can efficiently produce large quantities at a lower cost than trade partners that have historically been apparel export powerhouses (Mexico). Although quotas will still be a factor in
sourcing decisions made by buyers sourcing product in those countries outside WTO membership, for the larger part of the world, quotas will have minimal force after elimination.

Before quota elimination, relatively large or declining industries threatened by foreign competition received more protection in the way of quotas (Lee & Swagel, 1997). With the elimination of the quota system, production possibilities will open in countries where they were once limited. Developing countries will see an increase in export market share from the removal of quotas (Trela & Whalley, 1990). Developed countries will see reduced production and inter-developed country trade at the same time. With the elimination of quotas, new patterns of trade will occur affecting “location and sourcing decisions in the quota-free world” (USITC, 2004).

TARIFFS

Tariffs, like quotas, are trade barriers that are used by countries to protect a domestic industry against foreign competition. They are also used as a means to protect developing countries from losing market share in the global apparel market. Tariffs are monetary taxes that are imposed on imported goods. Because they add to the total unit cost, they are a sourcing barrier. This added expense will increase the cost of goods imported into the US, thereby decreasing demand for imports.

Tariffs, like quotas, have been a key factor in the sourcing decision process for many years (Motwani & Ahuja, 2000). After the elimination of quota, tariffs will be the next line of defense for those countries trying to protect their apparel production industry from foreign competition. For those countries that have trade agreements with the US (such as those in NAFTA and Central American Free Trade
Agreement (CAFTA)), tariffs will be less of a factor in the sourcing decision than in those countries without trade agreements. Countries with trade agreements will have lower or no tariffs. This could sway the sourcing decision away from a country without a US trade agreement because of the higher tariff. Tariffs add to the total cost of the imported garment; therefore, tariffs will play an increasingly important role in the sourcing decision after quota elimination (Nordas, 2004). In future trade, arrangements and agreements reducing tariffs will become more important.

Tariffs are used as a barrier to trade by applying a tax to imported goods. Research focused on 10 US apparel sectors which examined the effect trade barriers have on domestic welfare found that tariff elimination leads to a smaller reduction in domestic welfare than quota elimination (Goulder and Eichengreen, 1992).

Empirical research of US, European Union, and Canadian apparel and textile industries found that with quotas removed and tariffs remaining, developing countries’ access to foreign markets will be reduced (Trela & Whalley, 1990).

On the other side, developed countries will see larger market access gains in foreign countries. Hathcote and Nam’s (1999) research found a significant negative relationship between US import levels and tariffs; as tariffs dropped, imports rose. Clark, Kaserman, and Mayo (1990) looked at 318 US manufacturing companies and found tariffs to have an insignificant effect on the vulnerability of US manufacturers to foreign competition over all industries evaluated. However, their research did find the apparel industry to be one of the most vulnerable industries to imports among the industries analyzed; thus, the use of tariffs against foreign competition as a trade tool is less important that quantitatively restrictive barrier.
LEAD-TIME

Another sourcing barrier in the apparel industry is transportation time or lead-time from one port to another. Lead-time is defined as the time between ordering and receiving a product (Dickerson, 1999), and transportation across geographical distance accounts for much of the lead-time. An understood cost is associated with lead-time. The time it takes production to ship from a country overseas to the US can be critical to a retail selling season and can be costly, depending on the manner in which it is undertaken. In the competitive apparel retail market, delivery time is an important factor in the sourcing decision (Shahadat, 2003; Handfield, 1994; Motwani & Ahuja, 2000). The longer it takes to get products to the consumer, the more money is tied up in the product. In qualitative interviews of US retailers, lead-time was perceived to be important among buying personnel, especially mass merchandisers and higher-end specialty retailers (Hathcote & Nam, 1999). However, the use of econometrics in the same study, using a dummy variable to distinguish lead-times between countries found lead-time, was not significant. A company’s inability to offer timely delivery of goods will eliminate that company from consideration in the sourcing decision (DaSilva & Davies, 2002). Untimely delivery equals unrealized potential retail sales as well as increased transportation costs to speed delivery to market. A decrease in delivery time will continue to be increasingly important after quota elimination (Nordas, 2004; Trent & Monczka, 2003b) for companies to stay competitive in the global marketplace.
Related to lead-time are the transportation costs associated with the movement of the produced goods. This added cost to market will increase the cost of goods and the import dollar value. Since goods can be shipped or flown to their destination, the transportation method depends on the timing of the delivery. With the elimination of quota, apparel unit price will continue to be pushed lower due to increased competition. The added cost due to transportation will play a crucial role in the sourcing decision. With price found to be the key issue in sourcing, and timely delivery of goods being a close second (Shahadat, 2003), transportation costs will increase in importance in the sourcing decision. However, due to the inability to obtain data on transportation costs, only lead-time will be evaluated in this research.

EXCHANGE RATES

Exchange rates, another trade barrier, will increase US imports when a strong US dollar competes against a weaker foreign currency (Hathcote & Nam, 1999). When a weaker US dollar competes against a stronger foreign currency, US exports will grow. As a sourcing variable, exchange rates are significant indicators of the value of imports. A strong positive relationship between exchange rates and the value of US imports was found for imports coming from China, South Korea, Taiwan, and Mexico (Hathcote & Nam, 1999).

Exchange rates can be a trade barrier that is often overlooked. Using a country that has a weaker currency than the US will lead to cheaper imports, thereby decreasing the import dollar value and increasing demand. Alternatively, if the US has a weaker currency and is importing from a country with a stronger currency, import value will increase and demand decrease.
Exchange rates are also a major influence on the cost of apparel. In an increasingly cost competitive world climate fluctuations in exchange rates can increase the cost of goods shipping from a country. If a country’s exchange rate suddenly rises, the sourcing decision can be changed to another country with a more favorable exchange rate, and thereby a lower cost. The fluctuations of exchange rates have been shown to be a major factor in the sourcing decision (Handfield, 1994). Favorable financial capacity, including exchange rates, is a key decision factor when deciding to place business in a country (Shahadat, 2003).

LABOR COST

Price has always played a major role in the sourcing decision of apparel (Shahadat, 2003; Wall, Sommers & Wilcock, 1994). Being a labor-intensive industry, apparel can accumulate labor costs that make up one-half the cost of the garment; thus, labor cost plays a critical role in the pricing structure. The percent share of labor cost is much less in developing countries, making labor costs a major factor in the shifting of production to lower wage countries (Hathcote & Nam, 1999).

Labor costs can be defined as the wage paid to production workers. Therefore, an increase in labor costs will increase the cost of apparel from an imported country. This in turn will increase the import dollar value from that country. The ability to land/deliver a low garment price due to cheap labor costs is a key factor in a successful sourcing decision (Motwani & Ahuja, 2000), and will continue to be important due to the increase in market access and bargaining power afforded by the elimination of quotas (DaSilva & Davies, 2002).
Hathcote and Nam (1999) found labor cost to be a variable in sourcing decisions through qualitative research conducted with US discount, department, and specialty store sourcing personnel. Using secondary data, the researchers also found a significant, positive relationship between US labor costs and the amount of apparel imported into the US. If US labor costs increase, the demand for imported goods from lower labor cost countries will increase. Therefore, as the industry sources goods from countries with lower and lower labor costs, the apparel industry will see an increase in apparel import quantities. This can be seen in the negative relationship between US labor costs and import quantities (Gaston & Trefler, 1994).

With the increase of international sourcing, cheaper labor will be sourced, resulting in lower apparel costs (Trent & Monczka, 2003b). Therefore, due to global competition, labor costs will continue to be a major factor in sourcing (USITC, 2004).

**AVERAGE APPAREL UNIT COST**

Product cost is a critical internal sourcing barrier and is represented by the average apparel unit cost. The average apparel unit cost is defined as the cost per unit of apparel as sold to retailers in a given country. This cost is roughly equivalent to the import price of the good. An increase in import price will decrease the total import dollar value, due to a decrease in demand for the higher priced good. Likewise, if the import price decreases, the total dollar value will decrease as well; however, this can be affected by a surge in demand due to lower price, offsetting the price reduction and causing an increase in import dollar value.

With competition increasing in the global apparel industry, the quest to find a lower average unit cost of a good has further fueled competition. Previous research
shows that the average unit cost of apparel is a key driver of the sourcing decision. Shippen (1999) found that an import price increase would have a positive effect on production in the domestic industry. Therefore, if the cost of apparel coming into the US increases, the domestic apparel industry will gain in production market share (thus, US apparel industry employment) and the value of imports will decrease. This means, if imported apparel costs increase, the US apparel industry will see an increase in apparel employment, shifting production back home. The import price was also found to be a significant factor of the control over the quantity of imports (Hester & Barton, 1987). By increasing the price of the imported goods, you decrease the demand for the higher-priced good. This, in turn, will decrease total value of imports.

Cost has been shown in the literature to be one of the most influential variables in sourcing decisions (Shahadat, 2003; Handfield, 1994; Trent & Monczka, 2003b). Being a labor-intensive industry, in that most of the product cost consists of labor, there is no question why cost is so important in the apparel industry. Labor makes up one-half of the total cost of an apparel item for garments produced in the US. The percentage is less in developing countries with lower labor costs; however, labor remains a large portion of the overall cost of a garment. Research shows that the primary outcome gained in purchasing internationally is a reduction in the unit price (Trent & Monczka, 2003b) due to the lower wages in the countries sourced.

Over the past 5 years, retail apparel prices have fallen 2.1%, and with the absence of quotas, they are expected to fall an additional 4% in the following 5 years (Anderson, 2004). This decrease in apparel price is attributed to the opening of
sourcing markets with cheaper labor costs. One industry analyst predicted that a company would keep one-third of the savings from the elimination of quotas, another one-third would be reinvested for product improvement, and the remaining one-third would be passed along to the consumer (Anderson, 2004). With an eye on the ever-present bottom line, companies will focus on these cost savings. To maintain a competitive position in the global marketplace, sourcing personnel must learn to optimize their buying decisions in the new quota-free era.

SUMMARY

Background research suggests two essential themes 1) certain variables in the sourcing decision may change in relative importance and 2) that the elimination of quota will shift trade flows. These two issues will be examined in two separate studies: qualitative and quantitative. Chapter 3 explains the qualitative study and Chapter 4 the quantitative study.
CHAPTER 3

QUALITATIVE STUDY

The first study is qualitative and examines the impact that the elimination of quotas will have on sourcing decisions. The focus of this study is where production is placed and what quantities are ordered from various locations. Current research has not addressed impacts of quota elimination in the US apparel industry. Leonidou addressed the effect of import barriers on demand in Cyprus for importers of manufactured goods. He found competition-related barriers to be most important (Leonidou, 1999), specifically, keen competition and the inability of sourcing personnel to get an acceptable price. Import restrictions were the second most important import barriers. These include tariff and non-tariff barriers.

The research question driving this study is: how did sourcing decision outcomes change in response to the elimination of quota? This qualitative study will seek answers to this question by interviewing sourcing personnel and developing propositions about outcomes of the sourcing process after quota elimination.
Sourcing personnel perceptions of 1) decisions under the quota system, 2) effect of phase-outs in the quota system on decisions, and 3) postulated changes in production placement due to quota eliminations will be identified. In addition, buyers’ perceptions of the effects of import barriers on the apparel buying decision outcome both before and after quota elimination will be identified. This research is significant because it highlights the impact of quota elimination on the buying decision approach apparel firms use while operating in the world market. Companies can use this information to modify their corporate buying strategies and compete more effectively in the global marketplace. It will also be the first research of its kind to propose changes to the buying decision outcomes after quota elimination. The study will build on the current industrial buying literature in an apparel-buying context.

BUYING DECISIONS

Industrial buying decision research started in the mid-1960s with Webster’s (1965) theoretical framework. He postulated four steps in the buying decision-making process. This model has been extended and validated by his contemporaries. Webster’s (1965) proposed framework of the industrial buying process includes problem recognition, buying responsibility, search process, and choice process.

In problem recognition, a company realizes a need that requires making a purchase. The company assigns the buying responsibility by identifying the individual or group who will purchase the product and will define the parameters for that purchase. The buyers conduct the search process to lay the groundwork for the buying process. Evaluation criteria must be established for potential vendors as well
as for alternate products in the market. The search process must take into account uncontrollable parameters, outside factors the buyer cannot change, and controllable variables, which are those variables manipulated by the decision maker.

The choice process involves three steps; evaluation of vendor expertise (their ability to produce a certain product), product specifications comparison, and product comparisons (Webster, 1965). The choice process is conducted using procedures that have been established for the buying action in conjunction with specific criteria for evaluating the product. Some of the variables that are defined in the search and choice processes are cost, quality and service (Webster, 1965). Each of these variables in the buying decision framework is interlaced and works in conjunction with the other variables in the framework.

Webster and Wind (1972) projected that there were separate variables that influence the buying decision and impact the core decision framework. They categorized the variables into individual, social, organizational, and environmental influencers on industrial buying decisions (Webster & Wind, 1972). Individual factors are those that the individual buyer brings to the buying process. They include the buyers’ motivations, personality, and perceived role. Social factors include interactions between employees and others outside the company. These interactions affect the buying approach. Organizational factors are those set forth by the company to evaluate, direct, and structure the decision-making atmosphere of the buyer. The environmental factors are those outside the control of the buyer, such as economic conditions, availability of products, and values of others.
Sheth (1973) developed a comprehensive buying model in which he identified variables that were likely to affect the buying process. His variables were classified as product-specific, situational, company specific and psychological. Product-specific variables are controlled by the buyer and include the perceived risk of the purchase, type of purchase and time pressure to decide. The situational factors are those that intervene in the actual choice, and would include variables such as price controls, mergers, price changes, internal strikes, and recession. Company-specific and psychological factors are internal variables that are controlled by the buyer or the business environment. Company-specific factors deal with the orientation, size, and centralization of a company that affect the buyers’ decision. Psychological factors include the buyers’ background, expectations, distortion of information and satisfaction with past purchases.

Kotler (2000) proposed an eight-stage buying framework which built on previous frameworks. He also categorized influences on the buying decision into four categories: environmental, organizational, interpersonal, and individual. Environmental influencers are those that are external and cannot be controlled by the buyer. They include economic, technical, and political-regulatory factors. Organizational influencers are the objectives, policies, and internal systems of the organization that guide a buyer’s decision. Interpersonal influencers occur in an organization due to the diverse viewpoints and work ethics that are brought together by employees to complete a buying decision. The individual influencers are those that are controlled by the individual buyer and include personal motivations, and preferences influenced by personal attributes. These influences are consistent with
the influences proposed previously by Webster and Wind (1972) and Sheth (1973). The work by Webster, Wind, and Sheth provides a template for modern-day organizational buying research.

Bunn (1993) describes a buying decision approach that incorporates the search process with analytical tools, a strategic focus, and corporate level procedures influenced by the importance, extensiveness, uncertainty, and power of the buy. She proposed four situational characteristics that influence four buying activities. These eight variables, in turn, frame six possible buying decision approaches. The situational characteristics of the buying decision pertain to the buyer’s perceptions about a particular buying decision. They include purchase importance, task uncertainty, extensiveness of choice, and perceived buying power. Purchase importance is the perceived significance of the buy to the firm. Task uncertainty is the perception of information or lack thereof concerning the decision. Extensiveness of choice is the perception of the amount of choices available, and the perceived buying power is the buyers perception of the “firm’s negotiating strength” (Bunn, 1994). According to Bunn, information search is shaped by global environmental influences facing apparel and sourcing personnel, thereby ultimately influencing the buying decision and where production is ultimately placed. Relative to the current study, trade barriers comprise the key variables examined in the information search process.

SOURCING BARRIERS TO TRADE

With the US apparel industry being import intensive, the search for information process has turned into an extensive international effort. When sourcing
apparel offshore, information on trade barriers, such as trade laws, must be considered as well as additional systematic information due to the opening of previously limited markets, such as added transportation costs. This expanded marketplace, without the limiting effect of the barriers, permits shifts in trade flows. Companies previously had to split orders between producers in many countries to obtain the large quantities needed, due to quantitative restrictions. The elimination of quotas makes it possible to optimize the concentration of volume to a smaller quantity of producers in fewer countries.

Variables in the apparel sourcing decision process include geographical distance (affecting lead-time), transportation cost, labor wages, import barriers, exchange rates, and product inputs. Leonidou (2004) termed these “external variables” because they stem “from the home and host environment within which the firm operates.” External variables in the search process, including import barriers, were shown to have an effect on buying decisions (Leonidou, 1999). These variables add to the final apparel dollar value, thus affecting the outcome of the sourcing decision including from which countries the products are sourced, and the quantity produced in each country.

Leonidou (1999) categorized these external variables into procedural, governmental, task, and environmental barriers. Procedural barriers relate to importing documentation, transaction processes, and transportation. Governmental barriers include import regulations and governmental assistance. Task barriers involve overseas competition and differing habits and attitudes of personnel in the exporting country. Environmental barriers include economic and political stability
abroad, tariff and non-tariff barriers, and the familiarity with business practices overseas as well as differing cultures and languages.

Leonidou (2004) created a framework of export variables that are barriers to trade. Following his pattern, a framework for import barriers (see Figure 3.1, explained in Framework section below), was created for this research from variables found in previous Leonidou research (Leonidou, 1999).

The demise of the quota system in 2005 for WTO members will change not only the information search process of sourcing personnel, but also the manner in which external variables will affect the amount of US imports. Our trading partners will also feel effects of the elimination of quota. Therefore, the shifting commodity chain phenomenon will continue.

FRAMEWORK

The framework guiding this qualitative inquiry places import barriers into the taxonomy of influences on industrial buying decision-making proposed by Kotler (2000). For this research, the focus will be on the ‘search for information’ stage of the decision process and will examine the environmental influences on the buying decision outcome. The information search is the effort put forth by the buyer to obtain relevant information from internal/external sources. Kotler examines environmental influences such as level of demand, economic outlook, interest rates, and political and regulatory policies. These influences are consistent with variables examined by Leonidou (1999). Leonidou (2004) looked at barriers to importing for both the production exporter and importer in a country. In Leonidou’s previous research, barriers were categorized into a framework from the exporter’s point of
view. However, barriers on the importer were not placed into a framework; therefore, to guide the current research, an import barrier framework modeled after Leonidou’s export barrier framework was used to guide development of research questions (Leonidou, 2004). The relationship between the environmental influences and sourcing decision outcomes are shown below in Figure 3.1.

Environmental influences are listed in the box on the left. These variables define the parameters of the information search. For each country possessing the required production capabilities, external sourcing barriers, including tariff barriers, quota, economics stability, and capital intensity, will be assessed to determine whether or not the country should be considered as a production location. Geographic distance is also assessed. This analysis produces an outcome: the coursing decision. The countries selected and the amount of production placed in each country comprises the decision.

<table>
<thead>
<tr>
<th>Information Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables/Information Examined for each Country Possessing Required Production Capability</td>
</tr>
</tbody>
</table>

**External Sourcing Barriers**

- Environmental:
  - Tariff Barriers
  - Quota (Non-Tariff Barriers-NTB)
  - Economic Stability (GDP)
  - Capital Intensity (per capita GDP)

- Other Barriers:
  - Physical distance

**Sourcing Decision Outcome:**

- Orders Placed
  - Where (countries) placed
  - Quantity placed in each

Figure 3.1: Proposed Framework Based on Leonidou (1999)
Based on the buying decision and sourcing literature reviewed, the following research questions were developed to guide the study of the sourcing decision process at the company level.

QUALITATIVE RESEARCH QUESTIONS

R1: What are the differences in sourcing information search and decision making before and after quota elimination?

R2: What import barriers influenced the sourcing decision before quota and after quota elimination?

R3: What countries are going to be important to your business in the future? What reasoning do you have to make that assumption?

METHODOLOGY

A study querying sourcing personnel used key informant interviews to gain insight into how quota elimination has changed the way they conduct their sourcing decisions and in what countries production is placed. Interviewing allows the researcher to gain in-depth insight into the daily decision-making processes as well as how those processes will be affected. It is also beneficial in such a dynamic environment where changes occur daily. This rich information could not be garnered from a survey.

Grounded theory is a systematic means to explain social research inductively, thereby allowing a theory to emerge (Denzin & Lincoln, 2000; Patton, 2002; Strauss & Corbin, 1998). This method is a discovering of theory through “concepts and relationships in raw data and then organizing these into a theoretical explanatory scheme” (Strauss & Corbin, 1998, p. 11). It is a building of theory inductively
through immersion rather than a deductive testing of theory (Patton, 2002).

Therefore, the generated theory, emerging from the actual practices, cannot be
separated from the “process by which it is generated” (Glaser & Strauss, 1967, p. 5).

To generate grounded theory, social researchers use the constant comparative
method (Glaser & Strauss, 1967; Patton, 2002). Through the continual comparison
and analyses of the data starting with the first interview and comparing each one
thereafter to the other, the method is used to generate concepts and hypotheses about
the problem. It is not, however, meant to be used to test the hypotheses generated
(Glaser & Strauss, 1967). The constant comparative method is used in conjunction
with theoretical sampling.

In grounded theory, theoretical sampling guides the constant comparative
method of analysis (Patton, 2002). The process of theoretical sampling is guided by
the developing theory through the constant comparisons being performed on each
piece of the interview data. The selection of the research sample is chosen by
“theoretical relevance for furthering the development of emerging categories” (Glaser
& Strauss, 1967). As the theory emerges, sample participants are chosen to fulfill
insufficient ideas and refine concepts (Denzin & Lincoln, 2000). The number of
sample participants is not constrained or pre-set before the start of collecting data.
Saturation of data occurs when all concepts are saturated (multiple sources concur)
and no new relevant themes emerge. Once the saturation of data is achieved, the
sampling is complete (Glaser & Strauss, 1967).

Using grounded theory to guide the qualitative research, the theoretical
sample initially included interviews of six prominent sourcing personnel; two from an
apparel marketer, two from an apparel retail company, and two from an apparel brand manufacturer. The interviews were conducted via phone, tape-recorded, and included unstructured, open-ended questions (see Appendix 1 for list of questions). Using grounded theory, more interviews are necessary if common themes do not emerge across respondents (Hunter, Hari, Egbu, & Kelly, 2005).

The interview data and notes were coded and analyzed for common themes, issues, and production centers. The constant comparative method guided the coding of the interview data starting with the first interview, and then allowed the subsequent interviews to be compared with the emerging theory. Themes were interpreted and the emergent theory discussed in conjunction with the findings from the quantitative study.

Due to the confidential nature of the information collected through these interviews, the name and company of the interviewee will be kept confidential. Company demographics will be used to categorize the subjects. The results of the interviews are presented in Chapter 5.
CHAPTER 4

QUANTITATIVE STUDY

The second, quantitative study addresses the impact of import barriers on the demand for imports. A number of import barriers have been identified in the literature as influences on demand, including GDP (gross domestic product), a proxy for import potential, per capita GDP, a proxy for capital intensity, geographical distance, tariff in the form of duty rates, and quota usage. These import barriers have been found to affect US imports (Hathcote & Nam, 1999), and are compatible with the gravity framework which is derived from the Heckscher-Ohlin model.

The focus of this study is to investigate the impact of import barriers on demand before and after quota elimination. The purpose of this study will be to determine the effect of import barriers, specifically quota and tariffs, on the US demand for imports. The results of the econometric model facilitate prediction of quota elimination effects on US import demand. The findings from the quantitative study will be discussed in conjunction with the findings of the qualitative study. The significance of this research is two-fold.
First, assessing the US apparel industry’s import demand before and after quota elimination allows estimation of trade flow changes due to quota elimination. This can be used to shape trade policies at the international level. Second companies can use the information for decision-making purposes to help shape sourcing policies around major import barriers.

This study contributes an econometric approach to the study of apparel import barriers and changing trade flows. Few studies have examined the effects of trade barriers on the apparel industry; however, since the 2005 quota elimination research is beginning to surface. Recent studies (Xia, 2005; Baliex, 2005; Rahman, 2003; Batra, 2004) used a gravity model to explain and predict trade. In the next section, a review of the gravity model is provided, followed by a section outlining the model used for this study.

EXPLANATORY FRAMEWORK

HECKSCHER-OHLIN MODEL

In the 1920s, two Swedish economists, Eli Heckscher and Bertil Ohlin (International Economic Study Center, 2006), developed the Heckscher-Ohlin (H-O) theory. The theory looks at trade in two goods between two countries; it assumes one country is capital intensive and the other is labor intensive, with relative factor endowments between the countries being different. A country that is producing based on more capital-intensive industries is a country in which capital or wealth is the more abundant factor endowment. A country that is producing based on more labor-intensive industries, is one in which labor is the abundant factor endowment. The H-O theory posits that labor-intensive goods will be produced in countries endowed
with plentiful low wage labor. Because the apparel industry is labor-intensive, the H-O model provides a useful foundation from which to examine trade flow changes. Another important assumption of the H-O theory is that countries with differing levels of output will trade more with each other than those countries with similar outputs (Batra, 2004).

The H-O theory assumes constant returns, where an increase in inputs gives an equivalent increase in output, and homogeneity, where goods are interchangeable with other goods and cannot be differentiated by branding or quality (Markusen, Melvin, Kaempfer, & Maskus, 1995). The theory also assumes that countries differ in relative factor endowments, and that technology is equal across countries. These assumptions lend themselves to the labor-intensive nature of the apparel industry, as developing countries have relatively large amounts of inexpensive labor to produce labor-intensive goods. For developed countries that have more wealth and higher wages, labor-intensive products are less likely to be produced, causing the production to occur in the developing countries having more labor and less capital. Trade in labor intensive goods is expected to go from labor intensive countries to capital intensive countries.

The H-O theory will continue to be viable in the presence of barriers to trade (Markusen et. al, 1995) and will allow for the assessment of changes in US apparel imports due to quota elimination (Shoven & Whalley, 1984). While quantitative trade barriers limit trade, trade will still continue to some degree between two countries with differing factor endowments.
GRAVITY MODEL

The gravity model is used to explain bilateral trade flows. It predicts that trade between countries is positively proportionate to the countries incomes and negatively proportionate to the distance between them (Deardorff, 1995; Evenett & Keller, 2002). The gravity equation mimics the Newtonian law of physics, suggesting that the attraction (trade flows) between two countries is positively related to size (GDP being used as a measure) and negatively related to distance (Cheng & Wall, 2005). The gravity model accounts for the difference in factor endowments by using the per capita GDP of the trading countries.

Poyhonen (1963) and Tinbergen (1962) initially conceptualized the gravity model to explain international trade flows. Trade flows (measured by exports) were modeled with variables representing the trading countries import/export potential (initially measured by gross national product), and geographical distance between the countries. Equation 1 depicts the gravity equation in its original form.

\[ E_{ij} = Y_i + Y_j + D_{ij} \]  

where:

E- Value of trade (exports) between country i and country j
Y-GNP of country i and country j
D- Distance between country i and country j

Later studies included variables such as exchange rates (Matyas, 1997), border effects (Wall, 2000), and import barriers including tariff rates and quotas (Hummels, 1999; Castilho, 2002) in efforts to better explain trade flows. The basic form of the later models (Equation 2) includes GDP as in the original model, capital intensity
(measured by per capita GDP), and geographical distance between the economic centers (Cheng & Wall, 2005). The difference in GDP and the originally used GNP is the exclusion of non-resident incomes in GNP. GDP includes all activity in the US even by foreign companies.

\[ M_{ij} = Y_i + Y_j + y_i + y_j + D_{ij} \]  

(2)

where:

- **M**: Value of trade (imports) between country j and country i
- **Y**: GDP of country i and country j
- **y**: Per capita GDP of country i and country j
- **D**: Distance between country i and country j

**OPERATIONAL FRAMEWORK**

Poyhonen and Tinbergens’ early work was justified intuitively. It was widely accepted that the gravity model explained trade flows, but it lacked theoretical background. Deardorff (1995) is the foremost work in recent gravity equation research. He found that the gravity equation could be derived from the Heckscher-Ohlin model in two situations: 1) homogenous, frictionless trade and 2) complete specialization between countries trading differentiated goods. Using the first situation allows prediction of how the trading system will act with the presence of a trade barrier. In homogeneous trade, demanders of goods will be indifferent between domestic or import suppliers, and trade will be larger than it would have been with trade barriers in place. By adding a trade barrier to the model countries will be forced to overcome the barrier by differentiating through cost for trade to occur. Thereby,
one country emerges as the lower cost country and production will occur in that
country which is consistent with the gravity model.

Evenett and Keller (2002) provided additional theoretical support for the H-O
model as a specified gravity equation. They focused on goods produced with
differing factor endowments and perfect and imperfect specialization of production
between countries. They reported that large factor endowment differences between
countries predicted trade shifts. This result was only found for goods whose factor
intensities were very different.

The H-O theory, proposing that a country will trade with another country
whose factor endowments are different from its own, can be expressed as a gravity
model. The gravity equation approach typically measures factor endowments using a
country’s per capita GDP which is consistent with the H-O trade model. The H-O
theory explains “the success of the gravity equation when the partners have very
different factorial endowments” (Milgram, 2003). Several recent studies have used
the gravity model to study trade flows (Xia, 2005; Baleix, 2005; Rahman, 2003; De
Benedictis and Vicarelli, 2005).

Recently Xia (2005) investigated the impact of MFA quota removal on the
textile and apparel industry using supply and demand indicators, price and quota. She
found that there was a decrease in demand by European and US consumers for
domestically produced textiles and apparel; however, consumers enjoyed lower prices
of imported products resulting in increased demand for imports (Xia, 2005). The US
and EU also lost share in world textile and apparel production, while China,
Bangladesh, India, Indonesia, Malaysia, Pakistan, Singapore, Sri Lanka, Taiwan, Korea, and Thailand gained export shares to the US and EU (Xia, 2005).

Baleix (2005) studied the effect of import barriers using 20 different clothing categories imported into the European Union from 22 exporters. She found that tariffs had a significant negative relationship with import demand and the removal of quota would increase imports to the EU by 20% (Baleix, 2005).

Rahman (2003) assessed Bangladesh trade flows with 35 trading partners. He estimated three models: Bangladesh’s overall trade, exports, and imports. His import model used many variables used by Baleix (2005) including GDP, per capita GDP distance, duty and quota. Rahman (2003) added a trade agreement/arrangement variable to assess the impact regional and bilateral trade agreements have on international trade. He found that transportation cost, measured by distance, was a significant trade barrier negatively affecting imports. He also found the trade agreement variable to be significant and that Bangladesh would be better off trading with bordering countries.

De Benedictis and Vicarelli (2005) also added a trade agreement variable to their model to account for agreements/arrangements between countries. They found that trade agreement, distance and GDP variables were significant. Distance had a negative impact on import demand while the other variables had a positive impact. The variables used in these studies were the same as those proposed by both Leonidou (2004) and Kotler (2000). This is illustrated in Figure 4.1.
The framework underlying this research is based on the gravity model in the H-O context and uses the same variables as in Baleix (2005). The operational equation is presented following a description of variables.

The gross domestic product (GDP) of the exporter was used as a measure of the potential supply of goods (Baleix, 2005; Batra, 2004; Egger, 2002; Milgram, 2003; De Benedictis & Vicarelli, 2005; Rahman, 2003; Sohn, 2005). As the potential supply increases, the impact on exports should be positive (Baleix, 2005). US GDP, the importer, was an indicator of import potential (Baleix, 2005). GDP of the importer was expected to be positive, that is, actual imports will increase as the demand for imports increase (Baleix, 2005).

Per capita GDP for the exporter, the labor abundant country, was an indicator of capital intensity (Baleix, 2005; Batra, 2004; Egger, 2002; Milgram, 2003; De Benedictis & Vicarelli, 2005; Rahman, 2003; Sohn, 2005). When used to represent labor intensity, per capita GDP should be negatively correlated with a country’s exports of labor intensive goods (an importers import demand). As per capita GDP increases, the demand for labor intensive goods would decrease from the importing country. The capital abundant country was expected to import labor-intensive goods; thus, the per capita GDP of the importer in this situation would be positively related to imports (Baleix, 2005).

The real exchange rate can be defined as the “product of the nominal exchange rate and the relative price levels in each country” (RBA, 2001) and was used as an indicator of price competitiveness between the trading countries (Baleix, 2005; Egger, 2002; Rahman, 2003). Real exchange rate was expected to be
negatively correlated to import demand (Rahman, 2003). As real exchange rates increase, the demand for imports will decrease.

Trade agreements/arrangements are a means with which to provide trading partners with preferential treatment. Typically included in a trade agreement are concessions to decrease tariffs and limit or eliminate quota on imported goods. Several studies used a dummy variable to test significance for a country entering into a trade agreement (Sohn, 2005; De Benedictis & Vicarelli, 2005; Rahman 2003). The variable is expected to be significant; however, the effect on import demand will depend on the sign of the coefficient (Sohn, 2005). A positive coefficient will indicate an increase in trade due to agreements and a negative sign will indicate a decrease in trade due to agreements. When quotas and tariffs are assessed separately and used as individual variables in the regression model, they are expected to be significant and have a negative impact on trade (Milgram, 2003; Baleix, 2005).

Geographic distance was used as a proxy for transportation costs and the time to market (Rahman, 2003; Batra, 2004; Egger, 2002; Milgram, 2003; De Benedictis & Vicarelli, 2005; Sohn, 2005). Based on the gravity model, the farther away the countries are, the less likely they are to trade. A good that can be produced in multiple countries for relatively the same production cost will be differentiated by the additional transportation cost (Rahman, 2003) measured by distance. The physical distance between the trading partners affects import demand due to the time it takes to get goods to market and the costs associated with that time. Therefore, distance is expected to have a negative effect on the demand for US imports of t-shirts.
Based on the economics and sourcing literature, the following hypotheses were developed for examination of the effect of quota elimination on industry demand for imports.

**QUANTITATIVE HYPOTHESES**

H1: GDP will have a positive influence on demand for imports into the US.

H2: Per capita GDP will have a positive influence on demand for imports into the US.

H3: Tariff rates will have negative influence on demand for imports.

H4: Geographical distance between the trading countries will have a negative influence on demand for imports.

H5: Presence of quota will have negative influence on demand for imports.

H6: Real exchange rate between the trading countries will have a negative influence on demand for imports.

**METHODOLOGY**

The gravity equation model explaining flows due to changing international trade is estimated using ordinary least squares regression (OLS). Time-series cross sectional data from 1997-2005 will be analyzed to offer a “macro” look at the import factors affecting trade. Results of the analysis facilitates a projection of changing demand (trade flows) brought about by the elimination of quantitative trade restrictions. This approach is used to predict shifts in import demand by examining changing bilateral trade flows when trade barriers are reduced or increased.
Distance between countries

Gross Domestic Product (GDP)

Per capita Gross Domestic Product

Average Duty-Tariff

Quota

Trade arrangement/agreements

Real exchange rate (RER)

Demand for Quantity Imported

Figure 4.1: Glenn Apparel Sourcing Framework: Macro-Economic Perspective for Quantitative Study

\[ \ln M_{ijt} = \ln Y_i + \ln Y_j + \ln y_t + \ln (U_{t-1}) - \ln D_{ij} - Q_j - \ln (RER_{t-1}) \] (3)

The model will include the following variables:

M - Value of product demanded (measured by US imports) - Dependent variable

i - Importer (US)

j - Exporter

t - month

Independent Variables:
Y-Gross Domestic Product (GDP)
y- Per capita Gross Domestic Product
D- Distance between capitals of countries i&j
U- Average duty; variable lagged by 1 month
Q-indicator of incidence of quota; 0- no quota, 1- quota
RER-Real exchange rate; variable lagged by 1 month

All variables in the model are in log linear form except quota. Variables in the model are log transformed, which allows for a more linear form and meets the assumptions of OLS. The log-transformation also produces elasticity in the results, facilitating economic interpretation. This is accomplished by obtaining the first derivative of the equation using differential calculus. Using logarithms in econometrics gives the same outcome as the first derivative, and the relationship between the transformed dependent and independent coefficients is an elasticity estimate. This estimate can be interpreted holding all other variables constant and is noted as a percent change in the dependent variable given a 1% change in the independent variable.

Gravity models have used both time-series and cross-sectional data. Time-series data is defined as a set of data that includes “numerous observations on each individual in the sample” for multiple time periods (Pindyck & Rubinfeld, 1998). Like time-series data, cross-sectional data includes multiple observations for the individuals in the sample; however, it is for only one time period, which limits the assessment of economic effects over time (Pindyck & Rubinfeld, 1998).
Time-series cross-sectional data are used to capture relationships that occur over time for one category of goods. Traditionally, gravity models have used cross-sectional data from a 1-year period and were unable to look at relationships over time. Baleix (2005) used a two-stage gravity model with cross-sectional data for 1996 for many product categories. Because the purpose was to assess the impact of quota on EU trade, Baleix (2005) used a two-stage equation to predict the probability of a quota for the subsequent year. When analyzing only one year of data, it is necessary to use a predicted probability variable (an endogenous variable) in the gravity equation to account for the probability of the presence of a quota in the later year. Endogenous variables are variables that are determined within a model by past variables (Black, 2002). Past variable trends are used to predict the endogenous variables in yearly data. With cross-sectional data being only one year, an endogenous variable is predicted using two-stage least squares (2SLS), and that predicted value is then included in the gravity equation where ordinary least squares (OLS) is used to assess the affect of the variable within the system. Evidence in the literature supports this approach for analysis of gravity equations (Milgram, 2003; Batra, 2004; Sohn, 2005). For example, Milgram’s (2003) research assessed the impact of quota removal on EU imports using a two-stage gravity model, with quota as the endogenous variable, to analyze cross-sectional data from 1996 for multiple product categories. Since it was necessary to estimate an endogenous variable, two-stage least squares was the analysis of choice when cross sectional data were analyzed.
Some cross-sectional gravity model studies have not included endogenous variables. Batra (2004) used a gravity model to assess India’s total trade in goods for 2000, but the cross-sectional data were analyzed using OLS because no endogenous variables were present. The researcher examined regional trade agreement effects on trade, excluding quota. Sohn’s (2005) research looked at North and South Korean trade using cross-sectional data from 1995 for 23 product categories. Like Batra (2004), Sohn did not include an endogenous variable, and therefore used OLS for analysis.

In studies where time-series cross-sectional data were used, OLS regression was the analysis of choice. To assess Bangladesh’s trade with the presence of quota, Rahman (2003) used OLS to analyze time-series cross-sectional data from a 28-year period for 35 countries and included GDP, per capita GDP, distance, and exchange rate variables. De Benedictis & Vicarelli (2005) used OLS to analyze time-series cross-sectional data in order to assess changes in trade flows for 11 European countries and OECD (Organization for Economic Co-operation and Development) member countries. The use of time-series cross-sectional data allowed for the assessment of economic effects that cross-sectional data alone does not allow (Pindyck & Rubinfeld, 1998).

Trading countries in this study are the top 20 importing countries to the US for knit apparel based on 1997-2005 data. T-shirt apparel categories HS 338 and 339 are used. These categories, whose quotas were eliminated after the 2005 deadline, enjoyed five months of quota-free trade in 2005 (January-May). Subsequently, these apparel categories were placed under safeguards (a form of protective quota) on May
23, 2005 (OTEXA, 2006a), five months after the 2005 quota elimination. To reflect the trade condition, the data set includes the quota restriction on t-shirts prior to 2005 and again after May 23, 2005. The five-month period without quota reflects the no quota condition. This allows assessment of changes in bilateral trade flows after the 2005 quota elimination deadline for the industry as a whole.

Data is obtained from several sources. The monthly values of US imported knits (HS categories 338 and 339) were obtained from the Office of Textile and Apparel in the United States International Trade Commission (OTEXA, 2006b). Import values in current US dollars were compiled from 10 HTS categories (6109100012, 6109100014, 6109100018, 6109100023, 6109100027, 6109100040, 6109100045, 6109100060, 6109100065, and 6109100070) in the HS 338/339 quota category. The categories consisted of women’s/girls and men’s/boys knit tops, including t-shirts, printable t-shirts and tank tops. The total values were sorted by volume, and the top 20 exporters for the 1997-2005 time period were obtained.

Average import duty was obtained on a yearly basis from the US International Trade Commission (USITC, 2006). Tariff rates are expressed as the percentage of the cost of the garment from the manufacturer. Since duty is a tax and is assessed based on cost, yearly duty value was applied to each month.

Quota status was obtained from the US Customs and Border Protection (USCBP, 2006). Quota is a categorical variable with time periods being denoted by a 1 for months with a quota, and 0 for those without a quota. In 2005, China and Vietnam (a non-WTO member at the time) had quota for all or some months of that year, but the remainder of the countries in the sample had no quota.
GDP and per capita GDP were obtained in yearly values from the International Monetary Fund, (IMF, 2006b) and are in current US dollars. The yearly value was divided into 12 equal values to obtain a monthly estimate.

Distance between capitals was obtained using an international weather website to get distances between the two country capitals (Find Local Weather, 2006) in miles.

Real exchange rates (RER) were obtained as a monthly average from the International Monetary Fund (IMF, 2006a) and units are the national currency per US dollar in current US dollars.

The real exchange rate (RER) and tariff rates were both lagged from the previous month. Lagging of variables is conducted due to the delayed effect both have on import demand from one month to the next.

Vietnam has two missing cases in real exchange rate due to missing information. Listwise deletion was used in the regression to deal with the missing variables. This allowed for the exclusion of cases that have missing values from the dataset (Norusis, 2002).

When data is missing randomly and in smaller amounts relative to the size of the data set, listwise deletion is the preferred method of dealing with missing variables. Listwise deletion will reduce unbiased parameter estimates due to the random nature of the missing data. This is not true for other methods of dealing with missing data.

Using SPSS for the analyses of the OLS regression equation, a significance level of .05 will be used.
CHAPTER 5

RESULTS

In this chapter the results of each study are discussed starting with the qualitative study.

QUALITATIVE RESULTS

The qualitative study consisted of interviews with six sourcing personnel in the apparel industry who worked directly with t-shirts (HTS categories 338 and 339). Theoretical sampling guided the number of interviews conducted. The six respondents were interviewed after being recommended by other professionals in the apparel industry. Respondents were chosen as the data collection process proceeded. They were approached initially by e-mail to set a time for an interview after their sourcing role was verified by the referring person. Managers in two retail companies declined to be interviewed. The interviews were conducted over the phone and were tape-recorded for later transcription. Respondents included both executives and upper-level sourcing managers who had similar tenure in the industry. Levels of responsibility are categorized as upper-level manager for those whose
responsibilities included execution of company sourcing strategy for several product categories, and executive whose responsibilities included control of sourcing strategy for multiple, if not all, product categories and shaping of the company sourcing philosophy.

Further screening occurred during the interview, which lasted an average of 30 minutes. Each respondent was asked about the length of time in their current position and their area responsibilities to verify information. In addition, their tenure at the company before and after quota elimination was ascertained. Only one respondent was not in place after the release of quota, however due to their level of responsibility (executive), long tenure in the industry, and extensive knowledge of trade laws and quota, this respondent was retained in the analysis. Also, for each respondent, a general knowledge of trade barriers, specifically quota and tariffs, was assessed through description of the respondents’ daily responsibilities.

The constant comparative method in grounded theory was used for the analysis of the interview data and guided the formation of “conceptual categories” (Glaser & Strauss, 1967). The first interview was coded and all succeeding interviews contributed information to further develop the concepts initially identified. As new concepts were discovered, following interviews would explore those concepts for concurrence. As concepts developed, the less dense concepts were explored during the subsequent interviews (Strauss & Corbin, 1998). The emergence of common themes across the interviews enabled categorical grouping of key concepts. The categories became those in the emergent theory as seen in Figure 5.1. Data
analysis was facilitated by use of the NVivo software program with data coding and categorization of emergent concepts.

DEMOGRAPHICS OF SAMPLE

All respondents were promised confidentiality due to the sensitive nature of the information they shared; therefore, company and demographic information is described in general rather than specific terms. The sample was chosen based on the informants’ knowledge of knit apparel sourcing, their availability and willingness to be interviewed, and company demographics. The sample is a convenience sample; however, it was carefully selected based on references from industry insiders. Due to theoretical saturation, no additional respondents were needed after the initial six interviews because of the grounding of key concepts (Strauss and Corbin, 1998). Each key concept emerged from the data from multiple respondents.

Table 5.1 shows the demographics of the respondents. Five of the 6 respondents were with their respective companies for more than three years. The remaining individual had been at the current company for one and a half years. Four respondents were upper-level managers and two had executive responsibilities. Two respondents had 11-20 years experience in the apparel industry and four had more than 20 years experience in the industry.
<table>
<thead>
<tr>
<th>Respondent</th>
<th>Tenure at company (years)</th>
<th>Sourcing responsibility</th>
<th>Tenure in Industry (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailer</td>
<td>5 or more</td>
<td>Upper-level</td>
<td>More than 20</td>
</tr>
<tr>
<td>Retailer</td>
<td>1-4</td>
<td>Executive</td>
<td>More than 20</td>
</tr>
<tr>
<td>Marketer</td>
<td>1-4</td>
<td>Executive</td>
<td>More than 20</td>
</tr>
<tr>
<td>Marketer</td>
<td>5 or more</td>
<td>Upper-Level</td>
<td>11-20</td>
</tr>
<tr>
<td>Brand Manufacturer</td>
<td>5 or more</td>
<td>Upper-Level</td>
<td>11-20</td>
</tr>
<tr>
<td>Brand Manufacturer</td>
<td>1-4</td>
<td>Upper-Level</td>
<td>More than 20</td>
</tr>
</tbody>
</table>

Table 5.1: Respondent Demographics

To select a sample reflective of the industry, companies were chosen based on retail format and size. The sample included a smaller and larger volume company from each format category; two from an apparel marketer, two from an apparel retail company, and two from an apparel brand manufacturer. The largest US retailer, WalMart, was not included in the sample because it declined an invitation to participate. Gereffi (1999) defined the three retail formats used to define the companies in this sample. Apparel marketers are apparel firms that design and market their brand and outsource production. Retailers, whose primary responsibility is sales, buy their products from manufacturers. Historically, branded manufactures owned their own production facilities; however, in the past 10 years they have shifted away from that business model and are acting more like marketers and outsourcing...
production. Each format will have varying sizes of companies. Each format in the sample was categorized as either a large or a small format relative to the size of the other format in the sample. The breakdown of 2005 net sales for the companies in the sample is below (see Table 5.2).

<table>
<thead>
<tr>
<th>Retail Format</th>
<th>Size category (relative to other format in sample)</th>
<th>2005 Net sales (approx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailer</td>
<td>Small</td>
<td>$2.5 billion</td>
</tr>
<tr>
<td>Retailer</td>
<td>Large</td>
<td>$18.4 billion</td>
</tr>
<tr>
<td>Marketer</td>
<td>Small</td>
<td>$800 million</td>
</tr>
<tr>
<td>Marketer</td>
<td>Large</td>
<td>$2.8 billion</td>
</tr>
<tr>
<td>Brand Manufacturer</td>
<td>Small</td>
<td>$5 billion</td>
</tr>
<tr>
<td>Brand Manufacturer</td>
<td>Large</td>
<td>$19 billion</td>
</tr>
</tbody>
</table>

Table 5.2: Sample Company Demographics

INTERVIEW THEMES

The data grounded very quickly in the data gathering process, with the key themes emerging in every interview. Import barriers that were discussed previously in the literature review became obvious, as well as other non-quantitative barriers. Fourteen concepts, which can be categorized as either internal or external barriers to trade, emerged from the data. The internal barriers did not prevent trade, but did shape the sourcing strategies and clarify the parameters of the decision-making process. The external barriers were found to prevent or discourage trade. These
barriers take the form of laws, physical distances, and economic welfare with regards to the exporting country.

**INTERNAL BARRIERS**

For each format, it became clear early in the data collection that a corporate sourcing strategy was the guiding principle. “Each company must determine its own most important needs: quality, fast delivery, price, etc and then decide where best to produce” (Brand Manufacturer, personal communication, July 2006).

This strategy is set forth by the board of directors, CEO, and sourcing executive and dictates if a company is quality, price, speed to market, and/or socially compliant driven. These four concepts, which emerged from the data, shape the corporate sourcing strategy and are considered internal barriers to trade for the importing company. The sourcing strategy lays the base for sourcing decision-making and dictates the consideration set. For example, in a company operating under a price-driven sourcing strategy, the question of where to place production will be based mainly on cost factors. For companies that are on the forefront of fashion, time to market is important, so their sourcing strategy will focus on how quickly a production facility can get the goods to market; therefore, the location of the production facility becomes a key decision criterion. It is important to note that companies sourcing strategies may encompass not only one but several or all of the internal barriers causing some to look for “wholly competitive” countries.

Finding countries that are as wholly competitive as China [is difficult]. China is one of the few countries offering the ‘whole package’ of competitive pricing, quick development and sampling, decent communications, efficient
production, decent quality, and quick transit to U.S. (Brand Manufacturer, personal communication, July 2006).

Within the sourcing strategy, four decision criteria emerged by which the strategy is quantified: target quality, target speed to market, target landed cost, and social compliance.

**Target quality** is a very important concept. It can be defined as “meeting or exceeding customer expectations” (Mehta & Bhardwaj, 1998). Quality is generally built into the product to meet customer demands rather than inspected into the garment. Most companies have quality standard specifications and related departments to enforce those specifications. Exporting countries tend to be known for a particular skill set and level of quality.

You want quality, it is very important. That’s a given. The American consumer is going to spend their money and they’re going to expect that garment to not shrink down to nothing and not fit them after a couple washes - or they’re not going to expect the colors to run off. They are not going to expect the color to crock on their white car seats or something like that. So quality is very important. Fit is part of that [and] has become very important. It’s got to fit; it’s got to be consistent. Consistency is the key word in quality (Retailer, personal communication, June 2006).

In executing the sourcing strategy, the quality available from an exporter narrows the choice set before other barriers are considered. This internal barrier is one of the first for many companies, if not the first, considered in the sourcing decision. Countries that are not known for quality production are not considered.
Quality is a given in today’s world. Everybody has to execute to your quality levels. If they can’t, you just don’t do business with them. So if that’s a given, and you are only going to do business with people that have quality standards, that you know can suit to you, then it becomes speed and price (Marketer, personal communication, July 2006).

Previous research did note the quality barrier as an important variable in the sourcing decision (Leonidou, 2004; Leonidou 1999). It was found to be an internal decision that produces competitive advantage for the company (Globerman, 1999) and one that limits the consideration set.

**Target speed** to market is another important barrier to trade. Speed to market “occurs when a customer’s need is discovered and ends when he or she has the merchandise in hand” (Bozzone, 2002). Speed to market affects every link in the supply chain, as producers strive to be the first to respond to the customers’ needs with the quickest delivery of product. Factors associated with speed to market that companies consider when choosing locations are the cost of shipping goods and the shipping time incurred, with both variables adding additional cost to the product. In the product development phase, a target speed to market has to be determined and planned. The supply chain is set up to accommodate the target production time frame. Countries with production capacities and adequate infrastructure are better suited to handle short production cycles and have an improved speed to market over other countries. In the fast-paced industry, speed to market determines the viability of a producer in the choice set.
It truly is speed to market and setting up a supply chain and then delivers product in less than 30 days. That is probably the most challenging thing we are facing. And it’s very strategic and requires a lot of cross-functional participation in a brand in order to be able to deliver that and it’s just not as easy as one may assume (Marketer, personal communication, July 2006).

The speed in which it takes to get product to market is of utmost importance for apparel companies that live on quick trends and production turns to market. When product misses the market, the apparel company loses sales.

**Geographical distance** is another decision criterion associated with speed to market. While it is understood that distance cannot be changed, the cost associated with that distance can. When planning production, the speed with which product can be surface or air shipped to the US adds to the cost of the garment. “We would pay the extra 10 cents [to airfreight the goods in] to get it 30 days faster to hit the market to sell” (Marketer, personal communication, July 2006). The farther away the exporting country, the more time goods have to sit on a boat or money has to be paid to airfreight goods. “You are trading money for speed time… You have to pay more to get it faster” (Brand Manufacturer, personal communication, June 2006). Speed to market limits the consideration set; if the capabilities in a country suggest production/delivery time will exceed the time allotted in the supply chain, the country will not be considered.

Since I work on shorter lead times, I am expanding in Vietnam and Cambodia because the labor costs are low and I can get fabrics/materials quickly from China, Korea and Taiwan. If I had more lead-time, I would consider India,
Pakistan, Sri Lanka, and Bangladesh (Brand Manufacturer, personal communication, July 2006).

Speed to market, including geographical distance, was consistent with findings in the literature as barriers to trade (Abernathy, Volpe, & Weil, 2005; Leonidou, 2004; Knappe, 2005). Placing product in countries logistically that can deliver in the prescribed time is of great importance in the post quota era.

Target landed cost is another internal trade barrier that shapes the sourcing strategy. Landed cost includes all costs associated with making the garment as well as those associated with transportation of goods to the importing country. The common perception that companies always produce in the cheapest country and for the lowest cost possible was found to be incorrect. The respondents revealed that it is value, not lowest cost, that is most important where landed cost is concerned.

When you get into price, it’s not about who’s cheapest, it’s about value.

What’s the best value in the world market? And then you can break it down into knits and synthetics, cotton or natural fibers or synthetics… Some parts of the world really specialize in synthetics and not cottons and other parts of the world are cotton rich and they have no market or capacity for synthetics (Marketer, personal communication, July 2006).

Respondents were concerned with the product value for the target price. It was not about the cheapest, although price was a significant factor, but about the value obtained at the targeted price.

The key is to make a better product and put more into it and give the customer the best value. Now most products have the best value with stripping the
garment. We really pride ourselves in trying to get the best piece goods for the needle (Retailer, personal communication, July 2006).

Target landed cost as a key internal decision concept is consistent with research and plays a key role in the placing of apparel production (Hummels, 1999; Abernathy, Volpe, Weil, 2005; Leonidou, 2004).

**Social compliance** of exporting countries and factories producing goods is another criterion considered by apparel importers. Social compliance can be defined as operating in accordance with a code of conduct that is adopted by companies that set baseline expectations for their suppliers (Mamic, 2004). A code of conduct is formed by using international labor standards, such as age limits, wages, benefits, health and safety practices, and disciplinary practices. Public relations and personal ethics often underlie the decision to use only factories that comply with the laws of one’s own country.

First thing is before we begin to work with somebody, we send in a team that we call our compliance team. We have certain safety requirements, certain human rights requirements [that we use] (Retailer, personal communication, June 2006).

Countries that seek to export to the US are often compelled to maintain a minimum human rights standard so that importing companies will do business there. Importing companies often employ monitoring agencies to ensure that human rights are met, including the minimum age and work environment requirements. It becomes an internal barrier when a country does not meet minimum social standards narrowing the choice set by eliminating the offending country.
If a country is known for not having human rights we wouldn’t go there. Just consciously, I wouldn’t do it. We’re not going a country that suppresses people (Brand Manufacturer, personal communication, July 2006).

Social compliance is found in previous research and noted as a barrier to trade (Leonidou, 2004; Leonidou 1999; Kotler, 2000). Like quality, social compliance has a limiting effect on the consideration set before other variables are considered.

EXTERNAL BARRIERS

There’s nothing I don’t love [more] about what I’ve been doing for 30 odd years… the fact that I can go home and watch CNN and usually anything that’s happening around the world, somehow, someway is going to affect our business (Retailer, personal communication, June 2006).

A number of concepts relating to external barriers to trade emerged from the data. These barriers are beyond the control of the importing company and are therefore outside forces that affect the sourcing decision and narrow the consideration set. External trade barriers are described as environmental effects. The environmental barriers are further categorized into economic, political/legal, socio-cultural, and natural barriers to trade.

**Economic barriers** encompass the economic conditions, capital investment, and infrastructure of the exporting country. These economic barriers are highly interrelated. With a poor economy, capital investment will be limited. A poor infrastructure will occur due to poor economic conditions as well as lack of capital investment.
The **economic condition** of the exporting country was an important concept that emerged in the interviews. Countries can only be viable trading partners if their economy is successfully performing and stable. One of the effects of a poor economy is the lack of education available to the country’s citizens. Many developing countries lack basic educational opportunities, which makes training of workers difficult.

The problem that the Sub-Saharan countries have is again a lack of skill set, a lack of investment. They expect American retailers to come in and set up schools and teach them, but at the end of the day retailers are not in the education business per se (Retailer, personal communication, June 2006).

The consideration of the economic condition of source countries was consistent with previous research showing it to be an external barrier to trade (Globerman, 1999; Kotler, 2000; Leonidou, 2004; Leonidou, 1999). Favorable economic conditions will give one country a competitive edge over another in the consideration set (Globerman, 1999).

**Capital investment** is another important economic barrier. Without investment in the country’s education system and infrastructure, trade will be difficult with external trading partners.

The fact that quotas have gone away in more countries, has enabled [smaller Asian countries] to invest in their plans and equipment and people. To build up the skill set in their people. To bring in and invest in better machinery in their plants, because they have the ability to ship and be able to service the US market (Retailer, personal communication, July 2006).
Trading partners want a certain level of service and ease of doing business, and without capital investment, that service level cannot be achieved due to lack of state of the art factories and skilled labor.

A good **infrastructure** in the country allows for easier trade. Infrastructure includes not only the logistical means of shipping goods, but financial and legal structures as well. When goods and money flow easily through a country, trade becomes easier and foreign countries are more apt to conduct business in that country.

To build up the skill set in their people. To bring in and invest in better machinery in their plants. Because they have the ability to ship and be able to service the US market. And by skill sets, it’s not just sewing skill sets, retailers today want their suppliers to be multi-venue (Retailer, personal communication, June 2006).

Though countries with poor infrastructures can produce garments more cheaply, they will be eliminated from the choice set due to difficulties in trade that are likely to occur.

The Dominican Republic has some infrastructure issues and the factories that are there are just not consistent in delivering quality or product. And Mexico’s infrastructure, their financial banking infrastructure, was very simply not set up for it, and there was a lot of mistrust so nobody wanted to do business on a LC [letter of credit] basis and when they did they didn’t know what it meant. And they didn’t know how to operate. So they were very high maintenance in trying to do business within the…LDP [landed duty paid] basis, a full package basis (Marketer, personal communication, July 2006).
Consideration of capital investment and infrastructure as trade barriers is consistent with previous research (Rahman, 2003; Leonidou, 2004; Leonidou, 1999). This lack of investment in facilities and transportation can affect cost and speed to market (Leonidou, 1999).

**Political/Legal** barriers include tariffs, non-tariff barriers (quota) and the political stability of the exporting country. **Tariff duties** are an important barrier to trade since duties add cost to the product. This additional cost is reflected in the target landed cost of the product. Thus, the sourcing strategy will take external barriers into account where they affect the target cost.

It can increase the cost of the product, if you are talking sportswear, anywhere from 15 to 40%… China and India cannot compete. Now they have to pay duty, and in order to compete on speed to market they have to add air. When they have to pay duty and air they simply cannot compete with the western hemisphere if its duty free (Retailer, personal communication, June 2006).

For WTO member countries that are quota free, duty plays an important role in the sourcing decision. Countries that have negotiated trade agreements with lower duty or duty free have a competitive pricing edge to those countries with higher duties.

You had like in the case of Vietnam, whole duties so it wasn’t even attractive at all. People that were not part of the WTO were probably less attractive because labor routes [because of duty] were expensive (Marketer, personal communication, June 2006).
Quotas are at the heart of the world trade transformation since January 1, 2005. With the elimination of quota, trade is allowed with countries that previously had quantitative restrictions placed on their exports, reducing the amount of trade allowed with that country. This opening up of trade has increased the ability of countries to invest in the apparel industry and build their production bases. This increase in production and capital investment may result in an increase of a country’s GDP.

Quotas substantially restricted countries like Bangladesh, India and Pakistan and Sri Lanka and the smaller Asian countries. The fact that quotas have gone away in most countries, it has enabled these people to invest in their plant and equipment and people (Retailer, personal communication, June 2006).

The elimination of quotas has increased the choice set for a company and also allows a company to narrow its production to focus in a few key countries. Focusing on fewer countries however, must include analysis of potential for implementation of quota safeguards (so goods are not embargoed), political stability and production abilities.

It cuts down on the number of countries that you have to source in. Quota was an artificial way of really spreading the wealth by putting quantitative restrictions on every country. So you had to play a quota game. Like a jigsaw puzzle around the world. Whoever had the quota that’s where you had to make the goods. What it meant was that you had to [do] business in countries that either logistically weren’t well suited to your market place or just didn’t necessarily have the best skill set in order to make to your quality levels. You
had to make it in countries that had the ability or license to ship to the US (Retailer, personal communication, June 2006).

Tariffs and quotas were found in previous research to be barriers to trade, which is consistent with the findings from this research (Leonidou, 1999; Leonidou, 2004; Abernathy, Volpe, & Weil, 2005). Both were viewed as trade instruments that can either hinder or improve trade.

**Political stability** encompasses the political turmoil within a country and the safety and security of company sourcing personnel who visit a country. “The big thing is just safety for your people as they go in and out. If it’s not safe, I won’t send anybody” (Marketer, personal communication, July 2006).

Since 2001, with increased security, laws have changed to protect US ports. This extra security adds to the time it takes to get the goods to market, thereby narrowing the consideration set by eliminating countries deemed as security threats.

We’re a company that is a leading member of the CT pact (Customs Trade Partnership Against Terrorism Act), and we support all of the security programs that unfortunately we all have to live with in this post 9/11 world … (Retailer, personal communication, June 2006).

Some countries have internal turmoil that makes production very difficult and inconsistent. Unstable governments make for an unstable production site, leading to companies risking upheaval in a country and delays in production.

Well, Haiti just is a country in turmoil. The people come to work, don’t go into work. They go on strike. They are not in a position to execute it in any
type of consistent manner, so that rules Haiti out (Marketer, personal communication, July 2006).

With new trade partnerships being formed, the safety and security of both the sourcing personnel traveling from the US and the sourcing factories in the trade partnership are important.

Under the Bush administration, he’s trying to create MEFTA (Middle East Free Trade Agreement), but … you don’t have to be a genius to know that the Middle East is a very volatile part of the world. Something that I’ve lived by from the early part of my career, if I won’t travel to a country, I don’t expect my people to. I happen to be Jewish, so early on I didn’t want to travel to the Arab countries, it just wasn’t safe. Some of those countries in the Middle East, I just won’t go to (Retailer, personal communication, June 2006).

This is consistent with previous literature which states that internal political stability (Leonidou, 2004; Leonidou, 1999) and conflicts between countries are important considerations (ITC, 2005). Previous research did not note the effects of terrorism. This is likely due to the timing of the research.

Socio-cultural barriers include the cultural climate of the exporting country, which is defined by a country’s ability to work with other cultures. The ease with which countries can work together greatly affects the business relationship.

India, in my opinion, has the business savvy and the Western savvy that China does not have. And India is more attuned to our market and what our market needs or how our market wants to do business than the Chinese are. The Chinese are very insular. They do not like people from the outside. They do
not particularly like ways that are different from their’s. Culturally they are going to continue to do business their way, and we are going to have to figure out how to do business with them (Brand Manufacturer, personal communication, June 2006).

When cultures clash in business, it is more difficult to get daily tasks accomplished and coordinate the supply chain. This difference can lead an importing company to go elsewhere to do business.

(The Indians) have a better understanding of our business culture than the Chinese… China has a better infrastructure than India. China spent a lot of money to build roads and power plants and telephone lines, and telecommunications and ports, where India lags behind in infrastructure, so it’s a balancing act there. You have a very savvy culture [in India] that wants to do business, but is limited by its infrastructure, and then you have a non savvy culture [in China] that wants to do business but is limited by its cultural interactions (Brand Manufacturer, personal communication, June 2006).

Business friendly countries tend to get more production placed than do countries in which it is difficult to conduct business. Apparel companies are looking for the most efficient and culturally compatible countries in which to do business. The socio-cultural barrier to trade is consistent with previous research (ITC, 2005; Leonidou, 1999; Leonidou, 2004; Globerman, 1999).

**Natural barriers** are factors affecting the decision process that cannot be changed, such as weather related phenomena. **Weather related issues** took a larger role in the past few years in the importation of apparel.
We have natural disasters. We had an unfortunate incident this weekend in Indonesia [earthquake]. A lot of people died. These things happen. A year and a half ago was the tsunami. It was an awful tragedy, but it affects business (Retailer, personal communication, June 2006).

The tsunami in 2004 and the Indonesian earthquake in 2006 were both discussed as major events in apparel trade. Both events, while tragic, stopped production and exportation of goods for a period of time. As a result, sourcing persons have learned to diversify their production locations.

You have to have suppliers, larger and larger suppliers that are in multi-locations. You kind of hedge your bets, if there is some sort of problem, whether it’s man made or a natural disaster in different parts of the world because things happen. (Retailer, personal communication, June 2006).

A natural barrier is a new category added in this research and was not found in other research to be a barrier to trade. Like terrorism in the political stability concept, this is likely due to timing.

POST 2005 SOURCING STRATEGY CHANGES

With the elimination of quota in 2005, several themes emerged as changes to the company’s sourcing strategy. “Post-2005 sourcing decisions may shift less- or in different ways- than predicted by the conventional wisdom” (Abernathy, Volpe, & Weil, 2005). Data in this research revealed the same sentiment. Conventional wisdom predicted that companies would flock to countries that can produce for the lowest cost. What the data in this research suggest is a wait-and-see approach with a refinement on other sourcing concepts. These themes are not due to the elimination
of quota per se, but are certainly a response to a more competitive industry due to quota release. Shorter time lines, manufacturer consistency, and leaner, more efficient supply chains are themes that emerged from the data.

**Shorter time lines** are a way to stay competitive in today’s market. As previously discussed, speed to market is an important sourcing consideration. One way to accomplish this is a shorter timeline from conception of the design to production to placing product in stores.

The speed to market really started to become prevalent in 01-02 when there were so many specialty retailers and Wal-Mart was growing so big … So as Wal-Mart gets bigger and as our country moves away from middle class, and the middle class begins to shrink, you end up with 2 people that can spend money. The Wal-Mart customer or you move more into the specialty retailer for people that are more affluent. And of course there is much more margin in the affluent market… If you are going to be in that market place, the only way you grow is if you take it from competitors. And the way you do that is to put the right product out first, and then you’ll get fashion credibility for it and that’s how you build your customer base and that’s how you grow. So being there first and being there right, you have to have the right merchants to put the right product out, develop the right product, and you have to have a sourcing base or a supply chain that can get it to the store faster than anyone else. So this started to come around 01, 02, 03 but it’s becoming more and more important, to the point now that even Wal-Mart, you hear them begin to speak about speed to market (Marketer, personal communication, July 2006).
Manufacturer consistency is not a new concept but has become increasingly important to the sourcing strategy. When companies find a producer that meets all of their needs and production specifications, they are apt to consistently work with that production facility.

The stability in my supply chain is vital. Although the business is price driven, my philosophy for acquiring product and developing a supply chain is not price driven, it’s driven by consistency of supply and stability (Brand Manufacturer, personal communication, June 2006).

Relationships are formed and trust develops among the business partners. With the elimination of quota, companies are able to “pick [their] partners more wisely” (Retailer, personal communication, July 2006).

I can place my production where I want to place production, instead of where I had to place production because of quota. I can also make strategic, longer-term relationships with my key vendors (Brand Manufacturer, personal communication, July 2006).

Supply chains became leaner and more efficient after quota elimination through the editing of production facilities. Companies are freer to choose with whom they do business.

It [is] truly a partnership, where the elimination of quota has done [it] has allowed us to edit down our supply base, but as each supplier has multiple facilities and factories located in different parts of the world, we become truly integrated, our systems become integrated, and we are all based on the same success. If the stuff sells in the stores, we all win together. So you don’t need
a lot of key major players to do that. What you have to do though is have clear criteria of what makes an “A” supplier, your best supplier. You keep raising the bar (Retailer, personal communication, 2006).

Although quota elimination in 2005 has brought about an opening of trade with countries that were once limited by quantitative restrictions, the data suggests a cautious approach to moving production to hot spots like China and India. In the case of China, safeguard restrictions were placed back on t-shirt exports 5 months into quota free trade.

I think leading up to (2005), a lot of companies went into China, in anticipation, there were a lot of people that upped their production and held them until January to ship so they could ship under the no quota laws, which definitely affected that big volume the news media reported and Congress reported, which has since lead to quotas being reestablished (Marketer, personal communication, June 2006).

Most respondents stated that they felt the need to move cautiously with respect to China, and several did not jump into China with all of their production.

We were concerned about the knee jerk reaction what would happen with that volume (going into China initially). There had been so much investment in (China) and they were definitely ready to output the volume, it was just an unknown. Congress has never made any decisions. None of the customs clarifications have been answered. I think the industry as a whole was concerned that there was going to be confusion (with so much production
going into China and the subsequent safeguards) (Marketer, personal communication, June 2006).

When planning production, sourcing personnel tended to spread production to several larger producing countries instead of just one. Respondents clearly stated that they will remain in the countries they are currently doing business with; however, quantities may get shifted around. All were in a wait-and-see mode after quota elimination.

“In 2005 (after quota elimination) the thought process was for other countries to be able to show how good they are, especially once safeguards were placed back on China and everybody pulled out of China. Other countries got production opportunities like Vietnam, Cambodia, and Indonesia” (Marketer, personal communication, June 2006).

EMERGENT THEORY

The emerging theory is consistent with the import barrier work of Leonidou (1999). A new framework was created based on the emergent categories identified through the interviews (Figure 5.1).
Internal barriers in the apparel industry frame the sourcing decision. The spirit of these concepts were included in Leonidou’s (1999) work, but were not included in the proposed framework (Figure 3.1). The data suggested the sourcing strategy of a company does have a defining effect on the consideration set and can be categorized into four operational variables: target quality, target speed to market,
target landed cost, and social compliance. These variables were added to the internal barriers to trade in the framework (Figure 5.1).

External environmental barriers, including economic, political/legal and socio-cultural, were all found in the data and supported in previous research. The political/legal category can be expanded to include political stability. In previous research, political stability was discussed in the vein of the particular country’s internal stability. In the post 9/11 world, a new type of stability played a much larger role. Many respondents were quick to discuss safety for sourcing personnel traveling to countries that are seen as unfriendly to the US, as well as ongoing or impending conflict between countries. This led to unwillingness to travel to those countries seen as unfriendly and eliminated them from the choice set. Thus, many developing countries that have lower labor rates and are good candidates for apparel production in all other aspects will not be considered due to security reasons.

A new category of external environmental barriers arose as well. Natural barriers that include weather events were an emerging concept not included in the previous Leonidou (1999) framework (Figure 3.1). One reason for the emergence could be the timeframe of the Leonidou (1999) study and major weather events that have occurred since that time. Weather events are unpredictable; however, due to extreme weather occurrences in recent years, respondents discussed the need to diversify in multiple countries and strategically plan production. When weather events occur in developing countries like the Asian tsunami and the Pakistan earthquake, apparel production in those countries will be affected. The
diversification of production in different regions of the world was seen as a proactive way to plan for such events.

QUANTITATIVE RESULTS

The quantitative results are presented in the following section. Using a gravity model, OLS was used to estimate the effect of trade barriers on US import demand for t-shirts. The sample is described, followed by results of the regression analysis. The results are interpreted in Chapter 6.

SAMPLE SUMMARY

The sample consisted of the top 20 t-shirt exporting countries to the US from 1997-2005. These countries account for 88% of t-shirt imports into the US. Macau, the 16th largest exporter to the US, was eliminated due to lack of data and was replaced with the 21st importer, Russia. Monthly import values from the 10 HTS (Harmonized Tariff Schedule) categories in the HS (Harmonized Schedule) 338/339 category noted in Chapter 4 were summed to create a single monthly data point for each country. The top 20 countries exporting cotton t-shirts to the US are listed in Table 5.3.
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<td>225.025</td>
<td>244.015</td>
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<td>Dominican Republic</td>
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Table 5.3: Import Values (in current US million dollars) of T-shirts from the Top 20 Exporters to the US for 1997-2005
Quota restrictions and tariff rates are listed in Table 5.4. In quota rows, Y denotes that the country had a quantitative quota enforced by the US, and N denotes that the country did not have a quota enforced by the US. The * by China in 2005 indicates that quota was released from January 1-May 23. Safeguards (quantitative quotas) were placed back on China May 23 and continued through the remainder of the year to last through 2008. Tariff rates are expressed as a percent of the cost of the garment from the manufacturer.

Eight of 20 countries (Cambodia, Dominican Republic, Egypt, Hong Kong, India, Jamaica, Pakistan, and Turkey) had quota restrictions until the 2005 elimination and all were subjected to the same tariff rate. Nine countries had no quota restrictions during the time period: Canada, Haiti, Israel, El Salvador, Guatemala, Honduras, Italy, Peru and Russia. All of these except Canada and Israel were in the same tariff rate category as the previous eight countries. Canada had a minimal tariff rate for 1997, but thereafter had no tariff. Israel had no tariff rate or quota for the entire time period.

For countries in the sample, the minimum and maximum GDP (in US billion dollars) and per capita GDP (US $ per unit) for each year, 1997 through 2005, is presented in Table 5.5. The US figures for each year are also provided.
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Table 5.4: Top 20 US Import Countries Quota and Tariff Assessments

Note. * indicates Chinese quota release from January 1-May 23, 2005
Y-indicates presence of quota, N-indicates no presence of quota

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Table 5.5: Maximum and Minimum GDP (US billions) and per capita GDP (US $ per unit) for 1997-2005 of Top 20 US T-shirt Importers
ANALYSIS

The operational gravity equation used in this research:

\[
\ln M_{ijt} = \ln(Y_i - Y_j) + \ln(y_i - y_j) - \ln(U_{jt-1}) - \ln(D_{jt}) + Q - \ln(RER_{jt-1}) \tag{4}
\]

The model included the following variables:

M- Dollar value of product demanded (US imports) - Dependent variable
i- Importer (US)
j- Exporter
t- month

Independent Variables:

Y- Gross Domestic Product (GDP)
y- Per capita Gross Domestic Product
D- Distance between capitals of countries i and j
U- Average duty (lagged by 1 month)
Q- Existence of quota; 0- no quota, 1- quota
RER- Real exchange rate (lagged by 1 month)

OPERATIONAL HYPOTHESIS

H1: The absolute difference in GDP will have a positive influence on demand for imports into the US.
H2: The absolute difference in per capita GDP will have a positive influence on demand for imports into the US.
H3: Tariff rates will have negative influence on demand for imports.
H4: Geographical distance between the trading countries will have a negative influence on demand for imports.
H5: Presence of quota will have negative influence on demand for imports.

H6: Real exchange rate between the trading countries will have a negative influence on demand for imports.

In time-series cross-sectional models, autocorrelation and multicollinearity are concerns. Autocorrelation is the detection of non-randomness in time-series cross-sectional data between time periods in a variable (NIST, 2006). Two independent variables, tariff rates and exchange rates, were lagged to decrease the autocorrelation. There was the presence of positive autocorrelation (Durbin Watson = 0.705); however, due to the nature of time-series data, it is not considered problematic in the model.

Multicollinerity exists when variables in the model are highly correlated with one another. In an initial analysis of the model, GDP and per capita GDP were found to be highly collinear. Due to initial multicollinearity in the model, two new variables were created to replace the GDP and per capita GDP of the importer and exporters (as seen in Equation 4). The difference in GDP and per capita GDP between the US and the exporting countries was calculated and a log transformation was performed on the difference. This method was consistent with the theoretical background of the gravity model, which proposed that the difference in GDPs and per capita GDPs of two trade partners are trade indicators. The inclusion of the transformed variables (GDP and per capita GDP) helped avoid specification errors as opposed to deleting the variables from the model to correct multicollinearity. The variance inflation factor (VIF) values (Table 5.7) were under 10, the accepted level. Multicollinearity was not a concern.
The results of the OLS regression analysis are shown in Table 5.6. The six variables explain 30.6% of the variance in demand for US t-shirt imports, and the model is significant at the 5% level.

<table>
<thead>
<tr>
<th>Variables</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
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<td>Regression</td>
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<td>6</td>
<td>1024.653</td>
<td>159.638</td>
<td>.000***</td>
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<td>Residual</td>
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<td>2152</td>
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<td>2158</td>
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R = .555, R\(^2\) = .308, Adj R\(^2\) = .306, ***p<.001

Table 5.6: Multiple Regression Analysis for Gravity Model

<table>
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<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
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<th>VIF</th>
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<td>(Constant)</td>
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<td>2.956</td>
<td>-5.057</td>
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<td>Distance</td>
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<td>.077</td>
<td>-13.406</td>
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<tr>
<td>Duty</td>
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<td>.023</td>
<td>-6.335</td>
<td>.000</td>
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<tr>
<td>Quota</td>
<td>1.623</td>
<td>.128</td>
<td>12.717</td>
<td>.000</td>
</tr>
<tr>
<td>RER</td>
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<td>.128</td>
<td>-16.340</td>
<td>.000</td>
</tr>
<tr>
<td>GDP differ</td>
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<td>.450</td>
<td>12.694</td>
<td>.000</td>
</tr>
<tr>
<td>PCGDP differ</td>
<td>.029</td>
<td>.152</td>
<td>.192</td>
<td>.848</td>
</tr>
</tbody>
</table>

Table 5.7: Multiple Regression Results for T-Shirt Imports to the US (1997-2005)

*H1: The difference in GDP will have a positive influence on demand for imports.*

The difference in GDP between the trading countries was found to be positively related to import value. A 1% increase in the difference between the GDP of the US and the importing country increases import value by 5.7%, with all other predictors remaining constant. This finding is consistent with previous research using
the gravity model (Milgram, 2003; Egger, 2002; Sohn, 2005; Rahman, 2003). Thus, hypothesis 1 was supported.

**H2: The difference in per capita GDP will have a positive influence on demand for imports.**

The difference in per capita GDP was not significant, which was consistent with previous research (Sohn, 2005; Cheng & Wall, 2005). This finding is inconsistent with H-O theory, which suggests that countries with differing factors of endowment will trade more. Hypothesis 2 is not supported.

**H3: Tariff rates will have negative influence on demand for imports.**

The coefficient of the tariff variable (duty) was negative as expected. A 1% increase in tariffs decreases import demand by .143%, with all other predictors remaining constant. The significance and negative sign of the tariff variable is consistent with previous studies (Milgram, 2003; ITC, 2005; Hummels, 1999; Lee & Swagel, 1997). Therefore, hypothesis 3 was supported.

**H4: Geographical distance between the trading countries will have a negative influence on demand for imports.**

The distance variable has the expected negative sign. A 1% increase in distance will decrease US import demand by 1.03%, with all other predictors kept constant. This is consistent with previous research (Milgram, 2003; ITC, 2005; Rahman, 2003; Batra, 2004). Thus, hypothesis 4 was supported.

**H5: Presence of quota will have negative influence on demand for imports.**

The quota coefficient was positive indicating the presence of a quota leads to increased imports to the US. Baleix (2005), Haveman and Hummels, (1998),
Hummels (1999) and Castilho (2002) reported the same relationship between quota and imports. 

Because quota is measured as a dummy variable and the dependant variable is in log form, to interpret the change as a percent it is necessary to calculate the percentage using the following equation: \( g = 100(e^{(\beta - SE/2)} - 1) \) with \( e \) equaling 2.7818. With this transformation, the quota coefficient indicates that trade flows will increase by 375% with the presence of quota. It is typically thought that quotas are placed on the larger exporters to restrict the flow of imports (Baliex, 2005), however the increase obtained in the model shows otherwise. The unexpected effect indicates other confounding variables could affect trade flows. Hypothesis 5 was not supported.

**H6: Real exchange rate between the trading countries will have a negative influence on demand for imports.**

The real exchange rate was found to be a significant predictor of import demand. The negative sign indicates that a 1% increase in exchange rate will decrease US imports by .4% holding all other predictors constant. This is consistent with previous research (Egger, 2002; Leonidou, 1999). Hypothesis 6 was supported.

In summary, shifts in import demand are affected by the difference in exchange rates between the US and the exporting country, the distance between the countries, existence of quota and the duty rates. The difference in GDP has a large effect on import demand. Quotas have a significant positive effect on import demand, but that effect is unexpected.
CHAPTER 6

DISCUSSION

QUALITATIVE STUDY

The qualitative study revealed internal company related themes and external environmental themes affecting the sourcing decision process. Sourcing was found to be relationship-based and large production shifts would not follow quota elimination.

FINDINGS

While large shifts in production were expected due to the elimination of quota, the interviews did not reveal that such shifts occurred. The respondents were asked about the effect quota elimination had on their sourcing decision or strategy. A consolidation of suppliers was occurring that allowed for optimization of production centers in countries in which these companies were already producing. The set of countries in which suppliers placed production prior to quota elimination did not drastically change after quota elimination, nor was it projected to change in the near future. With the 2005 elimination of quota, there tended to be a wait-and-see approach with all countries, especially China.
Respondents reported doing some business in China before quota elimination, but they did not drastically increase production there after quota elimination. Most waited to see what the US government was going to do with safeguards and did not see any change in the near future.

Respondents noted the importance of relationships formed with suppliers or countries where they preferred to place production. Most production was placed based on a complex set of factors with the relationship factor being a significant component. Respondents anticipated that production would stay in countries where relationships had been formed. They were comfortable with export processes, quality, time to market, and production capabilities. Even with the prospect of less expensive goods due to the opening of previously restricted markets, respondents were very hesitant to change their current sourcing strategy. Respondents did not want to shift production to new vendors and go through the process of building new relationships only to have barriers placed on the new source. They would choose the “safer” country or supplier and pay extra for the peace of mind that production would not be interrupted. The respondents did keep the door open for new production partners in the recently-opened emerging markets, assessing their capabilities and “feeling them out” for future trading relationships.

Sourcing is organic to the brand. I have always believed that you partner with the right suppliers that give you a value product who understand your brand and understand their up front reputable people and you build the business with them. 80% of your business should be with your top 5 suppliers and then 20% should be testing in new countries… You never know when a supplier is
going to have a problem. The owner could pass away and it gets given to the kids and then the business just falls apart. For due diligence, you are always looking for another great partner to come up in the ranks. (Marketer, personal communication, July 2006).

With relationship based sourcing, the elimination of quota did not appear to have a dramatic impact on sourcing decisions. It created a cautious optimism in choosing trading partners and strengthened previous relationships.

The other noteworthy finding dealt with the country in which production was placed as a result of the sourcing relationship. Respondents were very vocal about not going into hostile countries, as labeled by the US government, or countries they deemed as volatile. Currently, there is an initiative by the Bush administration to create a Middle East free trade agreement giving Middle Eastern countries preferential trade concessions; however, the respondents indicated that favorable trade preferences do not guarantee trade will occur with a country. “You don’t have to be a genius to know that the Middle East is a very volatile part of the world. Something that I’ve lived by from the early part of my career, if I won’t travel to a country I don’t expect my people to” (Retailer, Personal Communication, July 2006).

IMPORTANCE

The goal of this segment of the research was to gain in-depth knowledge that could not be obtained through a survey or other quantitative methods. Interviews confirmed actual events and decision-making methods in the sourcing process and provided insight regarding where a more complex decision making process emerged. The perception that US apparel companies would jump to the lowest-cost producers
once trade barriers such as quota and tariffs were eliminated was found to be misleading. While cost is an important factor, this study suggests that relationships with vendors, travel security/safety, and the need to diversify due to natural disasters, are also considered in the sourcing decision.

These factors, along with economic, political/legal and socio-cultural barriers, were integrated into the sourcing decision process. The interviews shed light on the fact that the sourcing decision is not black and white but has many layers and is driven by multiple forces, only one of which is cost. The knowledge gained gives credence to the idea that sourcing personnel tend to be holistic in their decision approach. Although there was no conclusive evidence that major production shifts were occurring due to the elimination of quota, there was evidence that the sourcing decision has changed by including external variables (hostile countries and natural disasters) not previously identified.

LIMITATIONS

Limitations to this research stem from potential interviewee bias. During the interview process, respondents were asked to recall their impressions and processes. This can lead to misleading or forgotten information. There is also a chance for “socially acceptable” answers.

QUANTITATIVE DISCUSSION

The quantitative study produced expected results for most of the external barriers to trade, with the exception of the quota variable. Results were interesting and provide additional interpretation, but also raised more questions.
FINDINGS

The quantitative data showed that multiple barriers to trade included in the regression model (GDP, tariff, quota, RER, and distance) significantly affect the US demand for imported t-shirts. Coefficient signs were as expected (difference in GDP positively related to import demand, where importing country has larger GDP; tariff, quota, RER, and distance negatively related to import demand) except for the quota variable. The quota coefficient was significant and positive, suggesting imports increase with the imposition of quota. Possible causes of this unexpected positive relationship are discussed below.

The apparel industry is considered to be an infant industry for developing countries that use the industry to build their economies. Therefore, it is often used as a bargaining tool in negotiations between developed and developing countries. This suggests political action which is external to the apparel business causes trade barriers to be imposed or released. It also suggests trade barrier effects may not be captured by trade data and could have an effect not consistent with business responses to trade barriers. To consider this possibility, shifts in production in conjunction with changes in trade policy were investigated as an explanation of production shifts. These production shifts can be seen in plots of production levels of the top 20 US exporting countries (Figure 6.1) for 1997 and 2005. Each bar reflects a country’s percentage (share) of total imports from the 20 countries. Three countries are examined.

China was subject to the same tariff rates and quotas as other MFNs (such as the Dominican Republic, Egypt and Cambodia) from 1997-2005. As previously mentioned, quotas were released in January 2005; however safeguard quotas were
enforced beginning May 31, 2005. Within the first six months of 2005 (adding a month for the lagged import affect) immediately following the release of quota, China exported to the US 65% of the total amount exported to the US over the preceding 8 years. This massive increase in exports to the US prompted the use of safeguards to reduce market disruption in the US.

Mexico, unlike its NAFTA sister Canada, had quota with no tariffs in place until the beginning of 2001 and was the largest exporter of t-shirts to the US prior to the elimination of quota. After quota was eliminated, Mexico experienced a decline in exports to the US showing an inverse effect between quota elimination and exports to the US. At the same time Mexican quotas were being released, the Caribbean Basin Initiative (CBI) went into effect and gave preferential tariff and quota rates to those lower cost countries. This caused a shift of production away from Mexico to the CBI countries.

Vietnam was not a viable trading partner for much of the time period 1997-2005; however they made up much ground in a few years to make it into the top 20 exporting countries. Vietnam faced no quota restrictions until 2002; however, during this period its duty rate was 90%. In 2002, Vietnam was given normal trade relations with the US. Quotas were placed on its apparel exports while the tariff rate was lowered to the average “normal trade relations” rate. These tariff barriers continued through 2005 however, due to Vietnam’s non-WTO status. With the decrease in duty, Vietnam saw an increase of 497% in t-shirt exports to the US. This increase is remarkable because quota restrictions were placed on the product category at the same time.
There were several other countries that had notable gains and losses. Jamaica had a negative production shift, losing 7.5% of its production share. “Winners” were El Salvador, gaining 6%, and Honduras and Guatemala, gaining 4% each, all being CBI participating countries. Hong Kong and the Dominican Republic both lost 3% of their production share.

The changes in political policies between the US and its trading partners were not captured by the model. By looking at the data, we see there are production shifts that are occurring from changes in the political system. The changes include either trade arrangements/agreements or favored political incentives. Quota is expected to inhibit trade. However, in this study quota was not protecting the US industry. The positive relationship suggests that quotas were not inhibiting, but promoting, trade between the trading partners. This finding leads to the conclusion there are other political variables affecting imports and shifting production.

Figure 6.1: T-shirt Units for Top 20 US Importers for 1997 and 2005
LIMITATIONS

Quota was operationalized as a 0-1 variable. However, the restrictiveness of the quota in terms of its magnitude was not assessed in the regression model. Possible moderating variables are also not captured in the current model. These moderating variables include the political climate behind the implementation of trade barriers. Quantifying these political effects may prove to be very challenging. However, addition of these variables to the model would be valuable in capturing further explanatory power. Such possible quantifiable variables could include travel alerts between the two trading partners.

INTEGRATIVE DISCUSSION

Results in both the qualitative and quantitative studies are discussed in this section. It is when the two studies are looked at in combination that linkages between the quantitative and qualitative data emerge.

FINDINGS

The major findings from the qualitative discussion suggest that countries from which companies source will not immediately change due to quota elimination; instead, we will see a consolidation and optimization of sourcing efforts tempered by respect for established relationships and a wait-and-see approach to government responses to changes in trade flows. This will lead to some shifts in production from country to country currently producing t-shirts. “The apparel industry is about a 300 billion dollar industry and it never grows. It’s never grown forever. So the only way you gain market share is to take it from somebody else.” (Marketer, personal...
Barriers to trade will limit trading with certain countries, leading others without trade barriers to be optimal trading partners.

In the qualitative study, quota was not found to be a major factor driving the sourcing decision. However, the quantitative study showed quota to be a significant factor. Quota in the quantitative study did not affect the amount imported in a way consistent with protectionist policy though. With the imposition of quota under protectionism, one would expect imports from a country to decrease. This study suggests the imposition of quota leads to increased imports from that country.

In the qualitative study respondents also stated weather and security related factors will affect the sourcing decision in planning future production. However, these variables could not be operationalized for inclusion in the quantitative study.

FUTURE RESEARCH

Future research streams should include a quota restrictiveness variable in the model allowing for the assessment of quota fill rates. An expansion of the scope of the quantitative data to include other product categories would allow a comparison to see if trade barriers affect inferior, normal and luxury goods in the same way. It will also allow for country specific analysis. Further research to quantify a moderating variable that captures the political purpose of various trade agreements and arrangements would also provide valuable insight into effects on apparel imports. The political dimension in how trade barriers are negotiated and set could also be included to give a more complete view of barrier effects on the trading system.

It was interesting to note that one interview respondent mentioned the restrictiveness resulting from the lack of standard procedures across trade agreements.
and arrangements that were created to help free trade. This respondent noted that trade was impeded due to different rules between different countries, thus causing a trade barrier instead of the intended elimination of trade barriers.

They have to make it easy for investors and people doing business or buying things in their country. They have to make it easy for them. Now the rules that we have with NAFTA and CAFTA and ANDEAN are all different. There’s no accumulation, there’s no 1 set of rules. So as we negotiated NAFTA as one set, just follow the map and you do CAFTA as the same set, you do ANDEAN as the same set of rules. Everything is different. And its too hard to do business that way. So that’s why people like me tend to go to Asia because they make it easy for us to do business (Personal communication, Retailer, July 2006).

Future research to investigate the effect of standard trade agreements on import demand could help policy makers create legislation that would more effectively promote free trade.
APPENDIX A
QUALITATIVE STUDY

Phone Interview Questions

1. What type of apparel products are you responsible for sourcing?

2. How long have you been in the sourcing arena and what types of product have you worked in?

3. What is the biggest challenge in the apparel industry?

4. How does this translate to your daily job?

5. How has the quota elimination effected daily sourcing decisions?

6. What import barriers influenced the sourcing decision before quota elimination?

7. What import barriers influence the sourcing decision since quota elimination?

8. What are the marked differences between sourcing pre-quota elimination and post-quota elimination?

9. What do you see as the biggest hurdle post-quota elimination to the sourcing decision?

10. What was your biggest hurdle pre-quota elimination to the sourcing decision?

11. What is the future of US apparel trade?
APPENDIX B

WORLD TRADE ORGANIZATION MEMBER AND NON-MEMBER LIST
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<th>WTO MEMBERS</th>
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Finland 1995
Former Yugoslav Republic of Macedonia 2003
France 1995
Gabon 1995
The Gambia 1996
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Guyana 1995
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Hungary 1995
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Israel 1995
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Korea 1995
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Latvia 1999
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**NON-WTO MEMBERS- Observer Governments**

Afghanistan

Algeria
Andorra
Azerbaijan
Bahamas
Belarus
Bhutan
Bosnia and Herzegovina
Cape Verde
Equatorial Guinea
Ethiopia
Holy See (Vatican)
Iran
Iraq
Kazakhstan
Lao People's Democratic Republic
Lebanese Republic
Libya
Montenegro
Russian Federation
Samoa
Sao Tomé and Principe
Serbia
Seychelles
Sudan
Tajikistan
Tonga
Ukraine
Uzbekistan
Vanuatu
Viet Nam **Joined in 2006**
Yemen
APPENDIX C

SPSS SYNTAX

REGRESSION
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/METHOD=ENTER LndifPCGDP LndifGDP lnRER Q lnDUTY lnDIST
/RESIDUALS DURBIN .


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