

COUNTRY-OF-ORIGIN EFFECTS ON CONSUMERS' WILLINGNESS TO BUY
FOREIGN PRODUCTS: AN EXPERIMENT IN CONSUMER DECISION
MAKING

by

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(Under the Direction of Roger Swagler)

ABSTRACT

In this study, an experiment was employed to investigate the effect of foreign products' countries of origin on consumers' buying intentions. By using tangible products and providing different levels of information, this effect was tested in the participants' decision making processes. The 'made-in' effect was found to be significant in a multiple-attribute scenario. Also, the size of the country-of-origin effect was examined through price manipulations. In addition, the difference between consumers' responses to price changes in different products from a less-developed country was investigated through elasticity computations. The durable good from the country was found to be less own-price elastic than was the non-durable good from the same country.

INDEX WORDS: country of origin, economics of discrimination, own-price elasticity of demand, experimental design.

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
 CHAPTER	
1 INTRODUCTION	1
2 LITERATURE REVIEW	8
Country-of-origin effect	8
Developed country versus less-developed country as producer	12
Consumer bias and the economics of discrimination.....	13
Methodologies employed in previous research.....	15
3 METHODOLOGY	23
Research design	23
Sampling plan.....	28
Country- name selection.....	30
Product selection	33
Experimental design	33
Measurement development.....	38
4 DATA ANALYSIS.....	40
5 DISCUSSION AND IMPLICATIONS	51

REFERENCES	59
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APPENDICES

A The questionnaire used in a pilot study about country name selection.....	66
B1 The questionnaire used in the experiment for the shirts	68
B2 The questionnaire used in the experiment for the telephones	72
C1 Pictures of the telephones and labels used in the experiment	76
C2 Pictures of the shirts and labels used in the experiment	77
D1 The product descriptions on the information cards (telephone): without country of origin	78
D2 The product descriptions on the information cards (telephone): with country of origin	79
D3 The product descriptions on the information cards (shirt): without country of origin	80
D4 The product descriptions on the information cards (shirt): with country of origin	81

LIST OF TABLES

	Page
Table 1: Pre-test: Consumers' willingness to buy the products without knowledge of country of origin (n=145: within subjects)	41
Table 2: Post-test: Consumers' willingness to buy with knowledge of the products' countries of origin (n=145: within subjects)	43
Table 3: Consumers' willingness to buy after 10 percent price reduction in the less-developed country products (n=145: within subjects)	44
Table 4: Consumers' willingness to buy after 20 percent price reduction in the less-developed country products (n=145: within subjects)	46
Table 5: Consumers' willingness to buy after a 10 percent price reduction and a 20 percent reduction in the less-developed country products (n=145: within subjects)	47

LIST OF FIGURES

	Page
Figure 1: The lab setting of the experiment	35

CHAPTER 1

INTRODUCTION

During the decade of the 1990s, the percentage of world production moving in world trade increased by half, so that by 2000, the ratio of world trade in goods and services to world gross domestic production reached about 30 percent (WTO, 2001). As the world's leading trader, the United States imported over \$1 trillion worth of goods and services in 2000 (U.S. Census, 2000). The lives of American consumers are therefore linked to international trade more intensely than ever before.

Consumers can choose foreign products ranging from tea and sugar to automobiles and computers. These include those products which decades ago were limited to a select few, but now can be afforded by consumers of all social strata. Products from abroad draw consumers' attention by the design, performance, name of the producer, or the products' country-of-origin.

Before 1914, a product's origin was not a major issue. After losing World War I, however, all German exports were obliged to carry the English words: *Made in Germany*. The country-of-origin mark was imposed by the victors as a punishment to German industry and a means of helping consumers in the rest of Europe and North America avoid products from the former enemy (Morello, 1984).

Thus, the introduction of systematic country-of-origin labeling could hardly have carried a more negative connotation. The stigma, however, proved to be neither universal nor necessarily lasting. As the *Made-in* label raised consumers' awareness of sourcing, it

also came to stand for attractive features of products from certain countries. Even *Made in Germany* became a sign of high quality not long after World War I, and in today's marketplace, Japanese workmanship, Swedish design and French fashion have become world famous.

Marketers and researchers have been drawn to the question of how consumers respond to products from other countries. The effect of country-of-origin image on consumers' purchase behavior has become a widely studied phenomenon. Several definitions of products' country-of-origin images--also called products' nationality bias--have been developed since Schooler's study in 1965. Akria Nagashima's (1970) definition has been widely accepted:

The "Made In" image is the picture, the reputation, the stereotype that businessmen and consumers attach to products of a specific country. This image is created by such variables as representative products, national characteristics, economic and political background, history and traditions. It has a strong influence on consumer behavior in the international market, as it is associated with mass communication, personal experience, and views of national opinion leaders. (p. 68)

Past research has shown that the image associated with country of origin plays a significant role in consumers' perception of products. It is accepted that country of origin serves as a signal, enabling consumers to make an instant decision. Consumers may rely on such signals when more systematic search is very expensive or more comprehensive information is unavailable (Granzin & Olsen, 1998).

However, as globalization has progressed and traded goods have become an integral part of the typical consumer's life, one might question whether conventional wisdom still holds. This study is an effort to deal with that question. Using an experimental design, the study treated country of origin as a single product attribute instead of simply a signal of quality. The question is, then, given the other product information available to consumers, does country of origin still influence consumers' buying decisions?

This study involved an experiment to test the impact of marks of origin on consumers' decision making. The purpose of the study was threefold. First, the effect of products' country of origin was investigated in an experimental setting, where tangible products and related product information were provided. The information included products' countries of origin which, however, were not provided at the same time as other information. After examining different products and being provided with differing levels of information, the participants were asked to report their purchase intentions.

The second objective was to quantify the country-of-origin effect. Products' prices were used as a measurement tool to quantify the effect. In the experiment, before the information of country of origin was given, respondents reported their buying intentions based on product related information and prices, which were the same for both products from different countries. After the information on country of origin was given and its impact on respondents' buying intention was investigated, the prices for products from a less-developed country were manipulated to vary at different levels, while the prices for the products from a developed country remained constant. Respondents'

buying intentions on the less-developed country products were reported at each price level and were compared to their buying intentions before the price changes.

By holding other attributes of the products constant, consumers' preferences for or biases against country of origin were quantified into monetary terms using the theory of economics of discrimination (Becker, 1971). According to the theory, a consumer, facing a unit price of p for a commodity "produced" by a certain factor, makes a decision as if the net price were $p(1+d_k)$, where d_k represents the coefficient of his/her taste for discrimination against this certain factor.

The employment of the discrimination coefficient allows comparison of respondents' buying intentions at specific prices for products made in different countries. If a consumer has a taste for discrimination in the form of country of origin, he/she would act as if he/she were willing to pay some amount of money to be associated with productions from certain countries of origins instead of others. So, a price reduction for products from some countries of origins may not induce the consumer to decide to purchase those products. In this experiment, multiple levels of prices were used to investigate the monetary equivalent of consumers' preferences for or biases against country of origin.

The third objective of the study was to investigate the price elasticity of consumers' demand for foreign products based on consumers' willingness to buy products with certain countries of origin. Price elasticity was investigated by employing the price manipulations in the experiment. For some people, information on country of origin may itself have sufficient intensity to make a product unacceptable; for others, knowing a product's country of origin may simply result in lowering its value or increasing the value

of an alternative from another country. Letting consumers translate their preferences or biases into monetary terms it makes possible to delineate the consumers' decision making on the basis of comparative value offered, that is, the price-preference relationship of alternative goods.

Although the price elasticity was measured by a hypothetical price in the experiment, the idea of price concession consumers made on their choice of alternative goods with different country of origin have been reflected such that a reduced price may increase consumers' intentions to buy the products with previously biased countries of origin. By manipulating the price differential between products with different countries of origin, the pattern of consumers' purchase intentions across various price levels was examined.

This study makes an important contribution to the literature since few researchers have looked at the effect of country-of-origin image together with products' prices on consumers' decision making, Schooler and Wildt (1968) did so using glassware, while Nebenzahl and Jaffe (1993) used hypothetical automobiles in their studies. No one has employed different product categories as analysis items at the same time and compared the price elasticity. Theoretically, consumers' responses to price differentials will vary according to product categories (Bryant, 1992). This study examined price elasticities for two different products with a certain country of origin, and hypothesized that consumers would respond more intensively to the price change on a non-durable good than to the price change on a durable good.

The 'Made In' notion is a matter of tremendous importance in many marketplaces. It is relevant not only at the international level, but also at the regards of domestic versus

foreign products. Governments and producers may become proactive in domestic promotions of native industries for economic reasons. From a consumers' perspective, events like the Sept. 2001 attack on the World Trade Center in New York City may evoke patriotism and hinder one's buying intentions toward all foreign products. This study, however, focused on the investigation of consumers' buying behavior regarding products from abroad and avoided comparison between domestic and foreign products.

Recognizing the country-of-origin effect on consumers' buying intentions and quantifying the effect not only will help consumers understand the rationality of their purchase behavior, but also will help international producers and marketers. Previous researchers found that country-of-origin image is one of the most immediate interests for products which are marketed in a country other than the one in which they are produced (Papadopoulos, 1993). For producers and marketers, the image of products' origins can act as significant barriers to or facilitators of entry into a foreign market. Nowadays it is still imperative and valuable for marketers to know what images consumers hold about the country of origin and whether these images will affect consumers buying behaviors.

Once they know that country-of-origin images do occur, managers would be better served to know how a particular country-of-origin image compares to the images of competing producers, and to know what kind of market penetration strategies to use to increase consumers' acceptance of the products. Insights into these types of questions will enable marketers to make more informed decisions in the international market. And consumer educators can use this information in teaching buying skills. For example, the country-of-origin issue may be taken into 4-H consumer judging activities to help raise

the concern of global production and market issue of consumption behavior among the young consumers.

This study was conducted to shed some light on the investigation of those issues. Specifically, the research questions asked were: (1) Are consumers more likely to buy products from particular countries than to buy the same products from some other countries? (2) Are consumers willing to pay more for products with a certain country of origin than for the same products from other countries? If so, what is the level of price difference at which consumers will change their buying decisions? and (3) Do consumers respond differently to price changes on different product categories with a certain country of origin?

CHAPTER 2

LITERATURE REVIEW

Country-of-origin effect

Consumers use both intrinsic and extrinsic informational product cues as the basis for their evaluation of products (Ulgado & Lee, 1998). Intrinsic cues involve the physical composition of a product, whereas extrinsic cues are product related, but are not part of the physical product itself. Brand name, retailer reputation, and products' country of origin are regarded as extrinsic cues and can be manipulated without physically changing the products (Verlegh & Steenkamp, 1999).

Although they have no direct bearing on the product's performance, those extrinsic cues are part of the product's total image and thus can influence consumers' perceptions. The importance of image as a signal in consumers' quality or performance perception has been well recognized by researchers. Wright (1975) found that consumers simplify their decision making process by basing their quality judgment on brand attribute rather than on product attribute information. Bhuian (1997) also demonstrated that a 'five star' mark for a restaurant was perceived by consumers to mean higher quality even without comparing the operation to that of other places. Other researchers examined the effect of products' warranty on consumers' evaluations and found that the warranty is a signal of product quality (Boulding & Kirmani, 1993; Purohit & Srivastava, 2001).

Realizing that consumers may use one of the extrinsic cues: i.e., country of origin, as a signal to infer beliefs regarding product attributes such as quality, researchers mainly studied the use of country of origin as a cognitive cue (Steenkamp, 1990). The predictive value of such a cue is affected by either the “ecological” or “observed” covariation between cue and attribute (Steenkamp, 1989), or by the theoretical or intuitive relationship between cue and attribute (Pinson, 1986). The perceived theoretical relationship between the cue of country of origin and the attributes of a product is largely conducted by product-country images, among which quality as a representation of a country’s production has an important effect on consumers’ evaluations of products (Broniarczyk & Alba, 1994). A preference for German cars, for example, may be explained by the perception of advanced technological quality of the German industry as a whole.

Research has shown that country of origin serves as a signal for product quality and performance. Erickson, Johansson and Chao (1984) developed a model that involves country of origin and other product attributes such as quality and performance. They found a “halo effect” of country of origin: that is, country image affects beliefs about tangible product attributes, and in turn affects overall evaluation. Also, Han (1989) found that when unfamiliar with a country's product, consumers infer product information into country image, which then influences consumers’ attitudes toward other attributes.

While most studies in this area have treated country of origin as a multidimensional construct that evokes various product-attribute-related responses, some studies have shown that country of origin is not merely a cognitive cue. Instead it can be an affective image attribute which has direct influence on consumers' decision making.

Hong and Wyer (1989) demonstrated that the effect of country of origin cannot be explained entirely by the quality signaling process. They found that country of origin also has symbolic and emotional meaning to consumers, and it plays an important role like other attributes such as quality and reliability in shaping consumers' attitudes toward products. Affective connotation of country of origin may be formed not only by direct experience in foreign countries or encounters with foreigners, but also through indirect experience with countries through culture, education or some well-known events.

In some cases, consumers' attitudes toward a country as a producer could have a strong effect on their preference for the products. Obermiller and Spangenberg (1989) noted that an Arab-American might have a negative attitude toward Israeli optical products even though the consumer recognized the superior quality of Israeli instruments. Fournier (1998), on the other hand, described a case of a second-generation Italian-American woman who is strongly attached to Italian products not because of their quality, but due to their country of origin.

For most consumers, country of origin may also serve as an affective image attribute which associates a product with status, authenticity and exoticness (Verlegh & Steenkamp, 1999). When making buying decisions, consumers may link country of origin to personal memories, to national identities and to feelings of "pride" associated with the possession of products from certain countries (Hirschman, 1985).

Jaffe and Carlos (1995) found that the factor "proud to own" had a significant influence on Mexican consumers purchases of products from Japan and the United States. Okechuku and Onyemah (1999) also demonstrated that country of origin is significantly more important than price and other product attributes, such as reliability and safety, in

Nigerian consumers' preference. Therefore, even after controlling for perceived quality and performance, country of origin may influence consumers' products evaluations and buying decisions. This direct effect may be explained as the country-of-origin attribute is a significant determinant of consumers' tastes for preferences or biases, which plays an important role in purchase behaviors.

Moral action is another norm that relates to country of origin. Many consumers consider it morally appropriate to buy or not to buy products manufactured in certain countries. American boycotts of South African products are noteworthy, in this regard, as are Australian consumers' boycotts of French products because of French nuclear tests in the Pacific (Verlegh & Steenkamp, 1999). On the other hand, Granzin and Olsen (1998) found that American consumers' purchases of domestic products are positively related to internalized responsibility for helping and patriotism.

It was not the purpose of this study to examine the country-of-origin effect in regard to boycott or consumer ethnocentrism in considering that this norm of country of origin image is highly correlated with political and social events. Also this study did not examine the intriguing effect of country of origin on consumers' quality perceptions.

In a realistic consumption environment, not only country-of-origin image itself, but also the interaction between the image and other informational cues play important roles in consumers' purchase behaviors. In addition, consumers' perceptions of specific product attributes will vary across products, brand names, and purchase place, and consumers of different nationality and socio-economic status will hold different perceptions of the same attribute. Without being involved in such a consumption environment, an investigation of how country-of-origin image affects consumers' quality

perceptions would be difficult. Since the focus in this research is the investigation of consumers' preferences for a particular product attribute, this research examined the effect of products' country of origin on consumers' purchase intentions by treating this attribute as an affective aspect of a product.

Developed country versus less-developed country as producer

Past country-of-origin studies demonstrated a positive relationship between product evaluation and the degree of economic development of the country (Liefeld, 1993). Also products' countries of origin have been found to be statistically significantly related to consumers' likelihood of purchase (Wall & Liefeld, 1991). In addition, researchers have discovered that consumers in developed countries tend to prefer products from developed countries, first and foremost from their own countries. However, consumers in less-developed countries view domestic products less favorably than products from more advanced countries (Granzin & Olsen, 1998; Jaffe & Carlos, 1995; Okechuku & Onyemah, 1999; Papadopoulos, Louise & Jozsef, 1990).

While producers from developed countries enjoy a favorable position, they cannot avoid challenges to their market shares and customers' minds. Schooler and Wildt (1968) found that the effect of consumers' country-of-origin bias can be offset by price concessions. However, more enlightening than the penetration-pricing strategy is that some countries such as Japan have shown a way to succeed in developing their market share by enhancing the origin images of their products. Schooler and Wildt (1968) found that consumers were biased against products from Japan. Several decades later, "*Made in Japan*" means quality to consumers (Papadopoulos, 1993). The example of Japan may

well be followed by many countries such as Korea, China, and Mexico. It is worth investigating whether the effect of country-of-origin image still holds in today's highly globalized market.

Consumer bias and the economics of discrimination

As an affective attribute of products, country-of-origin image reflects consumers' preferences or biases which cannot be totally explained by objective aspects of products. Researchers in socio-psychology have accepted that "one individual is said to discriminate against (or in favor of) another if his behavior toward the latter is not motivated by an 'objective' consideration of fact" (Becker, 1971 p. 7).

By quantifying discrimination in money terms, Becker (1971) gave an unambiguous definition of discrimination in the market place and developed a theory of economics of discrimination. "If an individual has a 'taste for discrimination,' he must act as if he were willing to pay something, either directly or in the form of a reduced income, to be associated with some persons instead of others" (Becker, 1971, p. 14).

Although mainly focused on application in the employment market, Becker's economics of discrimination theory offered implications for consumers' behavior in the marketplace. Just as employers' discrimination against people may be motivated by subjective considerations, consumers may prefer one good to another because of subjective attributes such as retailer reputation or country of origin. Unlike quality, performance, price and service, this type of attribute would be appropriately relevant to purchase behaviors when a desire for 'discrimination' (or preference) exists.

No researcher has tried to link effect of country-of-origin image to the economics of discrimination. One reason may be that the country of origin has many complicated interactions with other product attributes and consumer segments such that the same country of origin for different brand names may have different effects on consumers' buying decisions, and consumers with different socio-economic status may view the same country of origin differently. As stated in the introduction, the purpose of this study was to investigate the effect of country of origin on consumers' purchase intentions and the size of the effect. Thus, in this research other attributes were held constant and applying the attribute studied, i.e., country of origin, to the monetary terms, which is the quantification method employed in the economics of discrimination.

In this study, the products' country of origin was treated as a subjective attribute, which is relevant to consumers' preferences for or biases against the countries as producers. The quantified pattern of the effect of country of origin on consumers' buying behaviors was under the concept of the measurement method of discrimination. Money, commonly used as a measuring rod in the market place, also served as a measure of discrimination (Becker, 1971).

To quantify the general term "tastes for discrimination," Becker used the concept of a discrimination coefficient (DC). From the consumers' perspective, "the money costs of a transaction do not always completely measure net costs, and a DC acts as a bridge between money and net costs" (p. 14). A consumer would use DC to estimate the net value of a product. For example, when he/she faces a unit money price of p for the product involved by a factor which influences his/her purchase behavior, acts if the net price were $p(1+d_k)$, with d_k as his/her DC against this factor. Although associated with

the term 'discrimination', a DC is not necessarily always positive. The sign depends upon whether the non-pecuniary element the DC represents is considered “good” or “bad”. If the DC represents the element of preference, it would be less than zero and infer non-monetary returns instead of a non-monetary cost of consumption. "Nepotism" rather than "discrimination" would occur in this case. The quantity pd_k is the exact money equivalent of the non-monetary costs or returns.

As applied to country-of-origin effect, if a preference for or bias against a certain country-of-origin image is held by a consumer and is reflected in the consumption choice, a DC would represent the consumer's tastes in terms of money prices. Using the measurement method of the economics of discrimination, a money equivalent of the non-monetary costs or returns for this preference or bias could be figured out.

Methodologies employed in previous research

Research design in previous studies

In the 1960s, Schooler (1965) reported the first research investigating country-of-origin image effect through an experimental design. A sample of university students in Guatemala was asked to examine identical products labeled as made in different countries, and to report their evaluation.

During the following two decades, consumers' usage of country-of-origin images became a widely studied phenomenon. Several studies were conducted either using experimental design (Schooler & Sunoo, 1969; Schooler & Wildt, 1968; White & Cundiff, 1978) or using sampling surveys (Bannister & Saunders, 1978; Nagashima, 1970; Reiersen, 1966).

Intangible descriptions of product cues such as photos and verbal attributes descriptions were commonly employed even in experimental studies. White and Cundiff (1978) used a mailed questionnaire containing instructions and descriptions of a machine tool, a lift truck, and a diction system. A sample of business managers was asked to report their assessments of the products on four characteristics. This verbal reference of products is one of the limitations of the methodology used in these earlier studies. Without showing respondents the tangible goods one cannot be sure what consumers actually had in mind when they expressed attitudes and evaluations. Taking White and Cundiff's article (1978) as an example, when making product evaluations, responses may have been based on some other products with which respondents had experience or were familiar, rather than the ones described in the questionnaire.

Another limitation in terms of the method is that most earlier studies involved only a single cue. Respondents were only given information about country of origin and then made their evaluations accordingly. A significant effect of such a single cue may only reflect consumers' sensitizations to this single piece of information in a particular environment, i.e., in a research where a product attribute is specified and highlighted by the researcher. Consumers' consumption behaviors in the real world, however, are related to more than a single item of information. With country-of-origin information only, it is difficult to ascertain whether or how the effect of this attribute can be offset or strengthened by other informational attributes, much less to estimate the size of the country-of-origin effect.

The dramatic development of the world economy within the last two decades has brought new understanding of consumers' preferences and the way they acquire and use

country-of-origin image. Both studies using surveys and those using experimental design have enhanced the application and implication of country-of-origin effect by involving more variations and more complicated analyses.

A well-known research project which employed a sampling survey method was a study conducted internationally by a team of nine researchers and coordinated by Papadopoulos (Heslop & Papadopoulos, 1993). The study collected responses from over 2,200 consumers in eight countries through a comprehensive questionnaire asking about multiple aspects of products and consumers. Overall, the study enabled a multinational replication and extension of early research especially in terms of broadening assessment of country-people-products images.

Studies that employed an experimental design, on the other hand, in general have made efforts to investigate country-of-origin effects in an in-depth manner. The experiments commonly used tangible goods, ranging from computers and VCRs to wallets and T-shirts. Also, to avoid the hypothetical purchase environment, some researchers even put the experiments in a shopping mall (Wall & Liefeld, 1991).

In addition to simulating a real purchase environment, using tangible goods also enables researchers to investigate the impact of country-of-origin cues on consumer judgments in multiple cues situations. Consumers may obtain information about quality and performance by actually touching, feeling and testing the products. Using tangible goods and multiple cues facilitated the researchers' examinations of consumers' information processing regarding both evaluation of products and purchase intentions.

Hong and Wyer (1989) conducted an experiment to test hypotheses concerning the cognitive process underlying the effect of country of origin and other specific

attributes information on product evaluation. Both the direct influence of country of origin on product evaluation, and stimulating influence of country of origin on other product attribute information were found to be significant.

To extend consumers' information processing to purchase intention, Ulgaho and Lee (1998) conducted an experiment using electronic products to examine the causal influence of country of origin and individual attribute information on consumers' buying behaviors. They found that consumers considered country-of-origin information to be equally as important as other specific product attributes in making their evaluations. However, when consumers made purchase decisions, country of origin was insignificant. The implication of the result of this study is important regarding consumers' buying behavior as a whole process. Nevertheless the fact that no tangible good was used in the study limited the validity of their conclusion in some extent.

Variables used in previous studies

Consumers' attitudes and product evaluation were commonly used by previous studies. In the first research examining the country-of-origin effect, Schooler (1965) had respondents rate some Central American countries' products as better or worse than those from Guatemala. Several researchers have developed attitude indicator items regarding consumers' product perceptions. For example, Gaedeke (1973) employed a five-point Likert-type quality rating scale, ranging from very good quality to very bad quality. Reiersen (1967), on the other hand, applied a five-point Likert-type to consumers' agreement on the quality description in the study, ranging from strongly disagree to strongly agree. Nagashima (1970) developed a seven-point semantic differential scale on

consumers' quality evaluation, ranging from good to bad. Also, the country-of-origin effect examinations were extended from only consumers' evaluation of quality to an evaluation of every aspect of products, including products' workmanship, inventiveness, durability, reliability, availability of size and model, and services (Okechuku & Onyemah, 1999; Wall & Liefeld, 1991; White, 1979).

Consumers' purchase intentions, another variable which also plays an important role in consumers' buying behavior, has seldom been measured by researchers. Although highly related to product evaluation, purchase intention may not be a successive step in the evaluation. For example, knowing that German-made cars are of high quality does not mean that a consumer will rush out to buy a BMW. Ulgado and Lee (1998) also demonstrated that Korean consumers' evaluations of a product were different from their purchase intentions for that product under the same context of attribute information.

In a multiple cues consumption environment, price plays an important role in consumers' decision making. As an effective measure of consumers' behavior, price can provide a clear view of how consumers ultimately respond to country-of-origin (and other) information (Hulland, Todino & Lecraw, 1996). However, the price factor has not been widely studied in previous country-of-origin studies.

Among the few researchers who investigated price behavior regarding country-of-origin effects, Schooler and Wildt (1968) created a concept of elasticity of product (country-of-origin) bias to test how price reduction influences consumers' product (country-of-origin) bias. Nebenzahl and Jaffe (1993) conducted a sampling survey and did a price elasticity analysis on Israeli consumers' demand for foreign goods from certain countries. Both Schooler and Wildt and Nebenzahl and Jaffe concluded that

consumers' bias on products from certain countries could be offset by price concessions of varying amounts. Neither of them, however, related the price to the size of country-of-origin effect *per se*. The concept of economics of discrimination may shed some light on quantifying the effect size of country-of-origin by the factor of price.

By examining the price factor, the concept of price elasticity allows researchers to attach a precise number to the degree of price responsiveness of the demand for particular goods. Consumer demand studies have found that consumers' response to price changes tend to vary across product categories. For example, Mann and St. George (1978) found that the demand for all food is very price inelastic. Other goods that have been found to be price inelastic are housing and clothing (Eastwood & Craven, 1981) and electricity in the short run (Beierlein, Dunn, & McCornon 1981). Women's hats, movies, and hamburger have been found to be price elastic (Capps & Havilicek, 1987; Houthakker & Taylor, 1970).

In general, quantity demanded for necessities--items that cannot easily be forgone when their prices rise--such as food, fuel, and shelter tend to be less responsive to a price change. Also, demand for those goods that consume a trivial part of income tends to be less responsive to a price change than demand those that are a large part of spending. In addition, those goods that have more ready substitutes tend to have higher price elasticity of demand than those that have fewer or no substitutes (Samuelson & Nordhaus, 1989).

When consumers make their buying decisions about alternative products from different countries of origin, their responses to the price change of a product from a particular country may be based on their beliefs about the availability and substitutability of the substitutes from other countries. *Ceteris paribus*, consumers may respond to a

price change of a product more intensely if they believe the product has more and better substitutes from other countries than to the product that they believe has fewer and inferior substitutes from other countries.

An experimental study could be conducted to examine and compare the price elasticities of demand for two products, which are both consumer goods commonly used in consumers' daily life and do not cost much differently. Since the two products have same the country of origins, the investigation of the difference in price elasticities between demand for these two products would shed some light on how consumers view the substitutes from other countries in regard to product category and how they make decisions based on their beliefs.

Sampling plans using in previous studies

One of the most significant differences between country-of-origin studies using sampling surveys and those using experiments is that consumers drawn from the general population were commonly used in survey studies whereas students were commonly used as the subjects in experimental research. Thus, an argument against experimental design is that using students as subjects may lead to overestimation of country-of-origin effects due to (1) students' high sensitizations may enable them to "see through" the objective of the design, and (2) students may be less knowledgeable about consumption than other consumers and therefore may rely more than the general population on extrinsic informational cues such as country-of-origin (Liefeld, 1993).

However, if the products studied are commonly purchased and used by students, there may be no reason to make a distinction between students and the general population

of consumers. Liefeld (1993) conducted a meta-analysis on 22 country-of-origin experiments, among which eight used student subjects and 14 used consumer subjects. The results of the analysis revealed no statistically significant difference in the estimation of country-of-origin effect between the two types of subjects. The conclusion may relieve to some extent concern about the external validity of experiments employing students as subjects. On the other hand, using students may enhance the homogeneity of subjects and hence support the internal validity of the experiments.

Measurement and analysis used in previous studies

Since Schooler's (1965) first research on country of origin, various forms of measurement were employed. Unlike Schooler's (1965) "better or worse"-choice question, Reiersen (1966) employed a high-medium-low rating scale to measure consumers' quality assessment.

Nagashima (1970) popularized the use of semantic differential scales as a means of studying the products' country-of-origin image (Papadopoulos, 1993). His approach, either applied to consumers' attitudes or their quality assessments, was followed by many subsequent studies. Among 22 studies included in Liefeld's (1993) meta-analysis of country-of-origin effect, all but two employed linguistic rating scales, either semantic differential or Likert-type, for measures of consumers' responses to the research stimuli, ranging from rating of quality, risk in purchase, to likelihood of purchase. Since they are in the form of bi-polar multiple-point scales, these measurement instruments can be treated as interval level instruments. ANOVA was the most common form of analysis method in the country-of-origin studies (Liefeld, 1993).

CHAPTER 3

METHODOLOGY

Research design

As stated in the introduction, the purpose of the study was to investigate the effect of products' country of origin as a product attribute on consumers' purchase intention. By experimentally manipulating price differentials between products from different countries, the country-of-origin effect on consumers' willingness to buy the products was quantified, and a concept that links consumers' country-of-origin preference or biasness to the economics of discrimination was created and examined. In addition, the own price elasticity of demand for two different goods labeled as made in a certain country was calculated and compared. The previous country-of-origin studies as well as material drawn from the economics of discrimination and price elasticity helped in framing the research hypotheses:

H1: (a) *Ceteris paribus*, consumers are less willing to buy products from less-developed countries than those from developed countries, but (b) as the price of products from less-developed countries decreases, consumers will increase their willingness to buy those products.

H2: Consumers' demand for non-durable goods from a less-developed country is more price elastic than that for durable goods with the same country of origin.

Two shirts were chosen as the non-durable goods and two telephones were chosen as the durable goods. The main reason for choosing these products is that they are commonly used by students of both genders, and students were the subjects in the experiments. Also, the values of the two goods in the study were similar; thus, the necessity and value of the goods should have no influence on comparison of price elasticity of demand, and the substitutability of the substitutes of the goods should be the determinant of the price elasticities. Another reason for choosing these two goods was that no country has the dominant market share and/or prevailing reputation for these products.

An experiment combining within-subject and between-subject design was conducted in the study. Two groups of respondents reported their buying intentions for either two telephones or two shirts with different countries of origin. The method chosen for the research sought to answer the research questions in such a manner that would test the relationship between a product's country of origin and consumers' purchase behavior under the circumstance that other attribute information was available and price was manipulated by the researcher. The dependent variable and independent variables in the study extend out of the research hypotheses.

The dependent variable is the consumers' willingness to buy products with different countries of origin. There are two categories that are representative of the dependent variable commonly investigated in country-of-origin studies: consumer's perception or evaluation of products' quality and consumer's likelihood of purchase or willingness to buy. While product perception and willingness to buy seem to be intuitively related, they could be conceptually and practically distinct. The results of

previous research inferred the existence of that distinction (Ulgado & Lee, 1998). Since the primary interest is the effect of country of origin as a single product attribute on consumer's purchase behavior, this study used consumer's willingness to buy the products in question as the dependent variable.

The independent variable for the country-of-origin main effect hypothesis, i.e., part (a) of the first hypothesis, is products' country of origin. It is a categorical variable with two levels: a developed country and a less-developed country. For part (a) of the first hypothesis, this country-of-origin attribute is the only product-related variable whose effect on a consumer's willingness to buy was to be examined. To hold other product attributes constant, two very similar products were used, but their countries of origin, i.e., the independent variable, were hypothetically manipulated by the researcher as two different countries. A noteworthy point of country-of-origin selection is that the participants' home country was excluded to avoid the potential effect of patriotism or moral buying consideration on consumers' purchase intentions.

Price, the key variable in the testing of part (b) of the first hypothesis and the second hypothesis, was given along with other informational cues before the country-of-origin information was given and its effect was measured. Initially, price was held constant for the two alternatives with different countries of origin. After reporting their purchase intention with knowledge of products' country of origin, the participants in each group faced price changes at various levels for one product with a certain country of origin, i.e., the less-developed country, while the price for the other product remained unchanged.

By experimentally manipulating the price change for products from the less-developed country, the effect of price concessions on consumers' decision making was investigated. As the hypothesis implies, a consumer's nationality bias toward a product may be offset by a price reduction. While consumers' willingness to buy still served as the dependent variable, a dichotomous variable, i.e., a price reduction on less-developed country products or not, served as the independent variable in testing part (b) of the hypothesis.

Also, holding the prices of the products from the developed country constant while changing the prices of products from the less-developed country created, price differentials between two products with different countries of origins were obtained. Then, a quantified pattern of a consumer's country-of-origin preference or bias could be investigated. Although the price reduction may play an important role in consumers' decision making, if a consumer has a bias against a product with a certain country of origin, a less-developed country in this case, he/she would make the purchase decision as if the net price of the product from a less-developed country were higher than the monetary price. The difference between the net price and the monetary price is the money equivalent of the non-monetary cost he/she is willing to pay for his/her products' country-of-origin bias. Thus, a decrease in price for a less-developed country's product while the price for a developed country's substitute remains constant does not mean consumers will be more willing to buy the product from the less-developed country despite the increased price differential.

For the second research hypothesis, price changes were used to explore consumers' responses to price changes, i.e., the price elasticity of demand, on products

from a certain country. Although the products' quantity demanded by consumers in the real market, which is one of the key elements in the concept of price elasticity, is not available in an experimental research, the number of respondents who were willing to buy the products specified after price changes was used as a proxy for the quantity demanded at different prices for the computation of the price elasticity in this study.

The degree of price responsiveness of the demand for a good is defined by price elasticity in percentage terms. This enables comparison of a consumer's price responsiveness for different goods. As the hypothesis implies, the price elasticity of demand for a non-durable good from a less-developed country was expected to be different from that for a durable good with the same country of origin.

The readiness and substitutability of the substitutes in terms of different *Made-in* labeling are the keys to determine the own-price elasticity of demand for each of the two goods. The relatively low-tech and easily made shirt might be perceived by consumers as having more and better substitutes from other countries than a telephone. Thus, consumers may more readily switch to a product made in a different country due to change in the price of a shirt with a certain country of origin than due to a change in the price of a telephone. To make the comparison on a continuous fashion, a "preference" pattern for each good, which illustrates the number of respondents who showed their purchase intentions for the product at various levels of the price, was provided and price elasticities were computed accordingly.

In the study, two levels of products' country-of-origin (developed country versus less-developed country) were crossed with two product categories (a durable versus a non-durable). An experimental design with a pre-test was conducted. Product's country

of origin was a within-subject treatment while product category was between-subject variable. However, the between-subject variable, i.e., the product category, was not used in the analysis of the hypothesis 1. Instead, it was taken into consideration in the analysis of the second research hypothesis in which price elasticities were compared. Analysis of part (b) of the first hypothesis and the second hypothesis was based on the experimental manipulation of prices for products with a certain country of origin.

Sampling plan

The experiment used a convenience sample of university undergraduate students, whose purchase behaviors related to the products' country of origin have been inferred by previous researchers to be the same as those of the general population of consumers (Liefeld, 1993). The relatively high level of homogeneity in a student sample helps the researcher deal with the selection threat to the study.

Also, the causal-effect application and theory application on which the study focuses made the employment of students as subjects appropriate. The internal validity of the research was given more consideration than the external validity. The relatively high homogeneity of university students would support the major concern of internal validity in the study.

One of the greatest external threats to the experimental design, pre-test sensitization, was noteworthy in this study particularly regarding the employment of within-subject design. Previous researchers pointed out that within-subject design makes the researcher's purpose and the experimental variables known to the subject (Campbell & Stanley, 1966). This might open up the experiment to threats to external validity such

as less generalizability of the effect of the experimental variables to the population from which the subjects were selected.

However, the within-subject design can reduce the sample size needed, and simplifies the identification of the net effects of a treatment by analysis of response differences within subjects (Han & Terpstra, 1988). This advantage also held for this experiment. When the results were analyzed, each respondent served as his/her own control. On the other hand, since the researcher was to simulate an environment in which consumers have choices among alternative products, the within-subject design was especially suitable for this study.

In the convenience-sampling plan used, 142 undergraduate students from two large introductory consumer economics classes at the University of Georgia (HACE 2100 and HACE 3100) were chosen as the subjects of the experiment. A previous study revealed that the characteristics of the students enrolled in these two classes were of high homogeneity (Marlowe, Lee, Koonce, & Cai, 2001). Before the recruitment of the student subjects in the experiment, a human subject application was approved by the university in March, 6th, 2002. Students were notified that they will get 10-point extra credit for their grades by taking part in the experiment.

This convenience-sampling plan made possible research that would otherwise be very difficult, but the price of this efficiency was less representativeness. The normal situation is that the majority of the students in these two classes are females, living in a metropolitan area with a relatively high family income (Marlowe et al, 2001). These characteristics may limit the generalization of the study to the general population of consumers or even the general population of university undergraduate students.

Country-name selection

The variable whose effect on consumers' purchase intention was to be investigated is a dichotomous variable, that is, developed country and less-developed country. Real countries' names were used in the experiment. Although previous researchers employed the real countries' names and generalized the results to the comparison between developed countries and less-developed countries (Liefeld, 1993; Wall & Liefeld, 1991), they did not indicate how they chose the countries names and how they generalized them to developed countries or less-developed countries. In addition, they did not mention how the research subjects viewed the countries names.

Thus, how to select a country as a producer is one of the major issues in country-of-origin research. Subjects' knowledge about countries plays an important role in participants' information processing and decision making. If a researcher wants to test the effect of a product's country of origin on a consumer's buying behavior but the consumer knows little about the country, the result could be meaningless.

Also, comparison of the country-of-origin effect of a developed country and a less-developed country requires assessing the subjects' knowledge of the degree of development of the countries chosen for the study. One cannot assume that subjects know degree of development of any country a researcher might choose or that all would agree on whether a country is developed or less-developed. So, in addition to their knowledge about countries, subjects' opinions on the degree of development of countries should be tested before choosing the countries to use in an experiment.

Thus, a pilot study was conducted to test students' familiarity with various countries and their opinion on how developed selected countries are. Also, students' images of various countries names was tested to avoid selecting countries about which students have extreme emotional feelings that might affect their information searching and decision making.

Seventy-five students from an introductory consumer economics class (HACE 2100) were asked to answer a two-page questionnaire on which there are 42 countries' names (Appendix A). A note-worthy point concerning the subjects in the pilot study is that they were the same subjects in the experiment. However, they were not notified that the purpose of the pilot study and the relationship between the pilot study and the experiment. Also, since they took part in the experiment about two months after the pilot study, the participation in the pilot study should have not big influences on their decision makings in the experiment.

In the pilot study, each student was asked to indicate his/her knowledge of each of the countries, ranging from not knowing anything about the country to having visited or studied the country. If the student's answered 'know something' or 'familiar', he/she was asked to indicate his/her opinion regarding the advancement of the country. Specifically the question was whether the student considered the country a developed country or a less-developed country. Also, if the student has knowledge about a country, he/she was asked to indicate his/her image of this country. Answer choices ranged from 1) a negative image to 3) a positive image.

The students answered the questionnaire in class and it took each student approximately 10 minutes to complete. The data were coded following the format of the

question such that a higher score represented more knowledge and positive image of the country.

Among the 42 countries on the questionnaire, there were 12 countries for which the majority, i.e., over 50 percent, of the respondents either knew something or were familiar. Those countries were Germany, Spain, United Kingdom, Italy, France, Mexico, Brazil, Australia, Japan, India, Egypt, and Indonesia.

Almost all of the respondents (over 98 percent) thought that Germany, Spain, United Kingdom, Italy, France, Australia, and Japan are developed countries. A majority of the respondents also thought that Brazil (87 percent of the respondents), Mexico (75 percent), Egypt (68 percent), and India (65 percent) are developed countries. Only Indonesia was viewed as a less-developed country by a majority of the respondents (75 percent).

As for the image of the countries, a majority of the respondents (63 percent) held a neutral image of Indonesia. Among those countries unanimously categorized as developed countries by the respondents, Japan was the country about which the highest percentage of the respondents (44 percent) had a neutral image, followed by Germany (42 percent), Spain (30 percent), United Kingdom (16 percent), Italy (15 percent), Australia (13 percent), and France (11 percent).

Using these data, Japan and Indonesia were chosen for the study, with Japan representing developed countries and Indonesia representing less-developed countries. The experimental items in both groups were labeled as made in Japan and made in Indonesia.

Product selection

Results of another pilot study were also used to select the two telephones and the two shirts for the experiment. To test the effect of products' country of origin in the experiment, all of the other features of the two items to be compared should be very similar so as not to affect respondents' decision making significantly. However, to avoid respondents' confusion when making product comparison, the two items should not be identical.

Four undergraduate students were chosen from the sample pool, i.e., a consumer economics class (HACE 3100), to take part in the pilot study. The students went to Wal-Mart Super Center in Athens, Georgia together with the researcher to buy the items for the experiment. The students selected two shirts and two that they believed to be very similar in terms of color, style, design, and features. The students agreed that without the brand and made-in information, the two products would be viewed as identical.

Experimental design

Before the experiment, all of product labels showing the brand and country of origin of the products were removed or covered. One telephone and one shirt were labeled Product A and the others were labeled Product B. These labels were not changed throughout the experiment (Appendices C1 & C2). Information to be given to the subjects in the experiment was put on several information cards, on which there was no brand information. Information about each Product A and B was phrased slightly differently and presented in a different order to prevent subjects from seeing the two items as identical. For each Product A and B, one card showed only information about

the item, the second card for that item included the same information plus county of origin (Appendices D1 – D4).

The price information was also shown on the first and second information card, indicating that each Product A was the same price as the Product B in that group (Appendices D1 - D2). Also the price for the shirts and the telephones were similar: \$22 for a shirt and \$25 for a telephone. Similar prices avoided the possibility that price might affect subjects' decision makings differently, therefore affect the analysis of the price elasticities of demand based on the products' substitutability.

The experiment started on April, 14th, 2002. A classroom was reserved as an experimental lab from 14th to 19th, and participants were told that they could come to the lab each of those days from 2:00 to 6:00 PM during that week. A total of 145 undergraduate students from two classes, HACE 2100 and HACE 3100, took part in the experiment (Figure 1).

Before examining the products, participants were randomly assigned to one of the two products. To reduce the interaction between the experimental subjects, there were never more than four students in the lab at one time. Also, they were told not to interact with each other during the experiment. When an even number of students were in the lab at the same time, one-half was randomly assigned to each product. When there was an odd number, one was randomly assigned to a product group. As a result, 76 students examined shirts and 69 examined telephones.

While examining the products, each participant was given a folder which contained a four-page questionnaire in a successive order (Appendices B1 & B2). At the



Figure 1.

The lab setting of the experiment

beginning of the experiment, the participants were told to take out the first page of their questionnaire and to read the statements and questions on it. Then, they were told to examine Product A and B in their group and to read each product's first information card, which described all of the product's components and features except the country of origin. Prices were also shown on the first information card for Product A and B, indicating that the price of each was the same.

After examining the products and reading the related information, the participants were told to answer the two questions on the first page of the questionnaire. The questions asked them to indicate their intentions to buy Products A and B by circling an answer on a Likert-type willingness to buy scale, with choices ranging from strongly unwilling to buy to strongly willing to buy the item specified.

Then, subjects were asked to put the first page back in the folder and to take out the second page of the questionnaire, which also asked them the same questions about their willingness to buy Products A and B. While they were reading the questions, the researcher replaced the information card for Products A and B with a card that included all of the information on the first card plus the items' countries of origin.

In each product group, the second information cards showed that Product A was made in Indonesia and Product B was made in Japan. The participants were told to read these second cards, to examine the products again if they thought it was necessary, and to answer the questions on the second page of the questionnaire.

The next stage of the experiment was the price manipulation. The participants in each group were given the information that the price of Product A (labeled as made in the

less-developed country) was lower, first 90% and then 80% of the original price, while the price of the Product B (labeled as made in the developed country) remained constant. The percentages of the price reduction were the same for both the shirt and the telephone in considering of the price elasticities comparison between these two products.

Next, each participant was asked to take out the third page of the questionnaire and answer the questions about willingness to buy the product made in Indonesia if the product's price was reduced to about 90% of the initial price. The specific dollar amount of the reduced price was provided on the questionnaire instead of percentages.

Next, each participant took the last page of the questionnaire from the folder and answered the question about participant's willingness to buy the product made in Indonesia with a 20% reduction in the initial price. The specific dollar amount of the reduced price was showed instead of the percent reduction.

After each participant finished the last page and put it into the folder, the second information cards, on which there was information about the products' countries of origin, were taken away from the tables. Then, the experiment was set up to begin again with the next group of participants.

In the experiment, each participant answered a total of six willingness-to-buy questions after examining information related about Products A and B. To renew the six questions asked about willingness to buy, 1) Products A and B without knowledge of country of origin, 2) Products A and B with knowledge of country of origin, 3) Product A (made in a less-developed country) with a 10% reduction in its price, and 4) Product A with a 20% price reduction. It took each participant about 10 to 15 minutes to finish the

experiment, including examining the products, reading the information, and answering the questions.

Measurement development

As implied by the research hypotheses, the dependent variable in the analysis is consumers' willingness to buy products from different countries of origin. This variable was used to assess a construct: consumers' purchase intentions for foreign products. Consumers' purchase intentions, one of the central notions in understanding consumers' decision making in a particular market, is more practical than other constructs studied in past research, such as consumers' perception of quality.

Although seldom used in country-of-origin studies, consumers' willingness to buy lies at the heart of the concept of consumers' buying intentions and has been measured by researchers in other areas through several methods, among which open-ended questions or bidding games have been frequently used (Kealy & Turner, 1993; Teal & Loomis, 2000). Most of those methods focused more on testing consumers' willingness to pay for a change in particular product attributes than on their willingness to buy the products or services themselves (Chamber, Chamber & Whitehead, 1998). Among the few researchers who have employed consumers' buying intentions in their country-of-origin studies, Ulgado and Lee (1998) used a nine-point bipolar scale. However, this purchase intention scale was also only related to the individual features of the products studied such as quality and reliability.

This study primarily examined consumers' buying intentions on the products themselves. Considering that product-related information including price was offered to

participants, the researcher decided it was more appropriate to ask subjects to report their willingness to buy through a scale rather than to have them write down an amount of money they would be willing to pay. Also, to quantify consumers' preference on products' county of origin under the concept of discrimination coefficient, price was manipulated and consumers' willingness to buy the products after the price changes were compared to that before the price changes. Thus, consistent usage of the willingness to buy scale facilitated the comparison.

This study employed a Likert-type four-point bipolar scale to capture consumers' willingness to buy the products in question. The scale asked participants to select between two opposite positions to indicate their purchase intentions. For example, a question was stated as: "Given the goods and the information provided, please indicate your willingness to buy the product A on the following scale." The subjects' choices were strongly unwilling to buy, somewhat unwilling to buy, somewhat willing to buy, and strongly willing to buy.

The face validity of the measurement instrument was assessed by the major professor and the committee members. The coding of the data followed the response format such that a respondent's willingness to buy a particular product was coded as one or two if he/she chose the unwilling-to-buy statements, and coded three or four if he/she chose the willing-to-buy statements. A higher numerical score indicated a higher willingness to buy.

CHAPTER 4

DATA ANALYSIS

Prior to testing the research hypotheses, the researcher examined the subjects' willingness to buy Products A and B in both product groups (Table 1). The subjects' responses to the questions on the first page, i.e., the questions about their willingness to buy without knowledge of country of origin, were used in the analysis.

Participants' willingness to buy was an interval level variable coded from 1 to 4, representing strongly unwilling to buy, somewhat unwilling to buy, somewhat willing to buy, and strongly willing to buy the products specified. The independent variable was a dichotomous nominal variable: Products A versus Products B.

A one-way analysis of variance tested the bivariate relationship between participants' willingness to buy Products A versus Products B (Table 1). The null hypothesis of no relationship was accepted at a .05 alpha level ($F=3.12$, $p=.08$). There was no statistically significant difference between participants' willingness to buy Products A and their willingness to buy Products B. The result of this pre-test confirmed that the products selected in the the pilot study were seen as similar by students who did not know the brand or country of origin.

Then, one-way analyses of variance were used to test the hypothesis 1, i.e., consumers are less willing to buy products from less-developed countries. The subjects' responses to the questions on the second page were used in the analysis. The data obtained from the two groups were combined and tested for the difference in the subjects'

Table 1

Pre-test: Consumers' willingness to buy the products without knowledge of country of origin (n=145: within subjects)

Consumers' willingness to buy the shirts and telephones		
	Products A	Products B
	(n=145)	(n=145)
Mean	2.87	3.01
Standard deviation	0.68	0.72
	F-value = 3.12	
	Eta-square = .01	

willingness to buy Product A (made in Indonesia) in both groups and Product B (made in Japan) in both group. This combination of data from two product groups focused on the difference between products' countries of origin, whose effect on consumers' buying intentions was the main interest of the study.

Four one-way ANOVAs were performed to test hypothesis 1. First, a one-way ANOVA tested the bivariate relationship between participants' willingness to buy Products A and B and the products' countries of origin (questions on the second page of the questionnaire) (Table 2). The null hypothesis of no relationship between the participants' willingness to buy and the products' countries of origin was rejected ($F=101.19, p<.001$). There was a statistically significant difference between participants' willingness to buy products with different countries of origin. An examination of the mean score on the participants' willingness to buy revealed that they were more willing to buy products from Japan (mean = 3.34) than products from Indonesia (mean = 2.64). This result was consistent with Hypothesis 1a: *ceteris paribus*, consumers are less willing to buy products from less-developed countries than those from developed countries.

Despite the fact that most students in the pilot study agreed that Japan is a developed country and Indonesia is a less-developed country, it is possible that the subjects might based on some criteria related to the countries other than their economic advancements when they make the purchase decisions. In future study, more specific questions related to the image of country of origin would help researchers to dress this concern.

Hypothesis 1b was also tested using one-way ANOVAs. The results of the one-way ANOVA testing the effect of a 10 percent price reduction on the participants'

Table 2

Post-test: Consumers' willingness to buy with knowledge of the products' countries of origin (n=145: within subjects)

Consumers' willingness to buy the shirts and telephones		
	Products A (Made in Indonesia)	Products B (Made in Japan)
	(n=145)	(n=145)
Mean	2.64	3.34
Standard deviation	0.60	0.59
F-value = 101.19***		
Eta-square = 0.26		

***p < .001.

Table 3

Consumers' willingness to buy after 10 percent price reduction in the less-developed country products (n=145: within subjects)

	Consumers' willingness to buy	
	Product A before reduction (n=145)	Product A after 10 percent reduction (n=145)
Mean	2.64	2.92
Standard deviation	0.60	0.62
	F-value = 15.53***	
	Eta-square = 0.05	

***p<.001.

willingness to buy is reported in Table 3 (using the responses to the question for Product A in the third page versus that in the second page). The null hypothesis of no effect was rejected ($F=15.53$, $p=.001$). An examination of the participants' mean willingness to buy the products revealed that they were more willing to buy Products As after the price reduction (mean = 2.92) than before the price reduction (mean = 2.64).

Another one-way ANOVA tested the effect of a 20 percent price reduction on the participants' willingness to buy (using the responses to the question for Product A in the fourth page versus that in the second page) (Table 4). The null hypothesis of no effect was also rejected ($F=195.49$, $p<.001$). An examination of the participants' mean willingness to buy also revealed that they were more willing to buy Product As after the price reduction (mean = 3.60) than before the price reduction (mean = 2.64).

In addition, another one-way ANOVA tested the difference between the participants' willingness to buy at a 10 percent price reduction and a 20 percent reduction (using the responses to the question in the third page versus the one in the fourth page) (Table 5). In this analysis, the dependent variable was the participants' willingness to buy Products A and the independent variable was a dichotomous variable: a 10 percent price reduction and a 20 percent price reduction. The null hypothesis of no difference was rejected ($F=92.63$, $p<.001$). Participants' willingness to buy Products A at two different levels of price reduction was significantly different. Comparison of the means indicated that participants were more willing to buy at a higher level of price reduction (means of 2.92 to 3.60, respectively).

Although the results of the statistical analyses were consistent with the expectation that consumers tend to bias against products from less-developed countries,

Table 4

Consumers' willingness to buy after 20 percent price reduction in the less-developed country products (n=145: within subjects)

	Consumers' willingness to buy	
	Product A before reduction (n=145)	Product A after 20 percent reduction (n=145)
Mean	2.64	3.60
Standard deviation	0.60	0.57
	F-value = 195.49***	
	Eta-square = 0.40	

***p<.001.

Table 5

Consumers' willingness to buy after a 10 percent price reduction and a 20 percent reduction in the less-developed country products (n=145: within subjects)

	Consumers' willingness to buy	
	Product A after a 10 percent reduction	Product A after a 20 percent reduction
	(n=145)	(n=145)
Mean	2.92	3.60
Standard deviation	0.62	0.57
	F-value = 92.63***	
	Eta-square = 0.24	

***p<.001.

there was no evidence from this experiment to support the application the economics of discrimination theory to country-of-origin research. There was no price reduction which would not induce participants to change their willingness to buy the products with a biased country of origin. The participants significantly increased their buying intention knowing that the price decreased by about 10 percent: the smallest reduction in this experiment.

In the price manipulation stage of the experiment there were two substitutes with different prices, for example, a telephone made in Japan costs \$25 and a same telephone made in Indonesia costs \$22.5. The results of the country-of-origin effect analysis suggested that participants biased against the one from Indonesia due to the country-of-origin factor. Had the participants not change their buying intention on the telephone made in Indonesia knowing its price decreased, the application of the economics of discrimination would imply that they act as if the net price of this telephone equals to the initial price and has not decreased.

As applied to the situation in the experiment, the net price of the telephone made in Indonesia was $\$22.5 (1+d_k)$, where d_k represents the participants' discrimination coefficient against the country-of-origin attribute. If the participants had not changed their buying intentions on the Indonesia-made product significantly, this net price should equal to the product's previous money price: \$25, which was also the price of a perfect substitute, i.e., the telephone made in Japan. The d_k could be calculated accordingly as .11.

However, the price reductions did result in a significant increase of the participants' willingness to buy the telephone made in Indonesia. The net price of this

product did not equal to its previous money price, which also equals to the money price of Japan-made telephone. Instead, $\$22.5(1 + d_k)$ was less than \$25, and this price difference induced the participants to be more willing to buy the telephone from Indonesia after its price decreased even though they were biased against the product's country-of-origin. The discrimination coefficient against the less-developed country therefore must be less than .11 but could not be figured out from this experiment.

There were no test statistics for the second research hypothesis. As stated in the chapter 3, for the computation of the own price elasticity of demand, the number of the participants who were willing to buy the products specified was a proxy for the quantity demanded for the products. The number of participants who were willing to buy the less-developed country-made product in each group was counted through the SAS frequency procedure (Figure 2), and the own-price elasticity of demand for each of the two products due to two levels of price reductions was calculated and compared (Figure 3).

Among the subjects who examined the shirts, 42 either chose somewhat willing to buy or strongly willing to buy the shirt made in Indonesia before the price was reduced. These were considered as intending to buy the product and the number was taken as a proxy of the quantity of the product demanded to compute the price elasticity of demand. After knowing that the price of the shirt decreased from \$22 to \$20, 55 participants were willing to buy it. Seventy-two participants were willing to buy the shirt after the price decreased to \$17.5. The absolute values of the price elasticities of demand computed for the two successive price reductions were 3.10 and 2.47, respectively.

Among the subjects who examined the telephones, 48 were willing to buy the telephone made in Indonesia at the original price. After the first price decreased from

\$25 to \$22.5, 58 participants were willing to buy the telephone. This number increased to 67 after the price decreased to \$20. The absolute values of the price elasticities of demand computed accordingly were 2.08 and 1.40, respectively.

While both products were own-price elastic during the first and the second price reductions, the elasticities for the shirt made in Indonesia were greater than those for the telephone made in Indonesia. This suggests that participants were more responsive to the price changes for the shirt than to the price changes for the telephone. This result was consistent with the second research hypothesis: consumers' demand for non-durable goods from a less-developed country is more price elastic than that for durable goods with the same country of origin.

CHAPER 5

DISCUSSION AND IMPLICATIONS

In this study, an experiment was employed to investigate the effect of foreign products' countries of origin on consumers' buying intentions. By using tangible products and providing different levels of information, this effect was tested in the participants' decision-making processes. This study was also concerned with other two issues. First, the size of the country-of-origin effect was examined through price manipulations. Second, the difference between consumers' responses to price changes in different products from the same country was investigated through elasticity computations.

In this context, the findings lead to three main conclusions. First, the 'made-in' effect was found to be significant in a multi-attribute scenario. This finding suggests that the degree of economic development of the producing country does affect consumers' buying intentions when other information is also present. Second, the country-of-origin effect does not totally prohibit consumers from considering products from a country against which they have a bias. Decreases in the prices of products from less-developed countries will induce the consumers to increase their willingness to buy these products. Third, the hypothesized difference between the own price elasticities of demand for different products was confirmed: a durable good from a less-developed country is less own price elastic than is a non-durable good from the same country.

To investigate the size of the country-of-origin effect, a theoretical framework was proposed in this study that employed the economics of discrimination theory. According to the concept of the discrimination coefficient, the participants were expected not to change their buying intentions for products from a country of against which they have a bias even after a price reduction. However, the result did not support this theoretical application, and the discrimination coefficient regarding products' countries of origin cannot be calculated.

While the data analysis confirm the hypothesis that consumers do care about where products are manufactured from and have biases against those from less-developed country, some limitations prevented application of the results to the theoretical framework. First, in terms of the experimental design, the within-subject measurement of participants' willingness to buy after price manipulations limited the applicability of the results. Consumers response to price changes might be consistent with the concept of the economics of discrimination if there were more price changes and with smaller intervals. However, multiple levels of price manipulations within a group would increase the risk that subjects would discover the purpose of the experiment, cause fatigue of the subjects, and make some levels of price change meaningless to the subjects.

Second, in terms of the design of the research, the lab environment may mean that subjects acted differently than that when they make real purchase decisions. Without using a real shopping environment and investigating consumers' real purchasing activities, it is difficult to delineate consumers' true decision-making processes. The hypothetical purchase environment and the hypothetical prices and price changes were

based on consideration of the efficiency of the study, and therefore might result in inaccurate results regarding consumers' buying behaviors.

The notion of bias or preference on images of countries is behind much of the diversity, richness, and dynamic of the human experience, and of the research's small concern in it, the study and practice of consumers' buying behavior. Consumers with different demographic and socio-economic statuses may have different images of the same countries of origin. Also, the same images of countries of origin may have different effects on consumers' decision making in different places and different times. Using college students and an experimental design limited the study's applicability to a broader consumption environment.

Nevertheless, the findings of this study provide some implications for marketing strategy and research. First and most basically, the country-of-origin effect is a matter of international marketing strategy. A challenge facing foreign marketers is to ascertain the effects of their origin countries on consumers' consumption of the products. Armed with this knowledge, the marketers should decide whether any relevant action is indicated. Such actions may include promotion of the origin images, suppression of the images, or using price strategy to enhance competition of the products with unfavorable origin images.

This study shed some light on the question whether the importance of origin images in consumer behavior will diminish as markets become more globalized. While most previous researchers reported their findings of significant country-of-origin effect before late 1990s, the globalization of business of the new century has brought on intense concern about the merits and continuing relevance, or lack, of national origin identifiers.

Some argued that origins are no longer relevant in global markets where hybrid products, i.e., the products with components from several countries, and global branding more and more become the norm of business.

However, although focusing on globalization and not promoting their national affiliation, in many cases global brands have difficulty shedding their national images. For example, Ford, GE (General Electronic), and Coca-Cola are clearly viewed as 'American' by consumers. Therefore they are continually accentuating the country-image effect on consumers' consumption behaviors. Also the presence of hybrid products may offer producers even greater market opportunities through origin promotional campaigns. For example, Sony stereo may position its products by reference to Japan technology and not to the fact that many parts are manufactured in several different countries.

As international trade and global competition increase and universal standardization of production minimizes product-based competitive advantages, manufacturers are not likely to abandon powerful promotional methods such as country image identifiers. On the other hand, realizing the importance and severity of international competitiveness, governments are becoming more proactive and systematic in promoting their image abroad. Examples range from campaigns at retailing markets organized by embassies (e.g., "Italian Week at Bloomingdale's") to support for national appearances at trade fairs (Papadopoulos, 1993).

From the consumers' perspective, increased exposure to foreign countries and their products through traveling and media and the growing presence of foreign products in domestic market brings about greater awareness and acceptance of these products and

the related country-of-origin image. Also, as the market and products become more complex, consumers would increasingly seek means of simplifying information processing through using some specific product cues, including product's country of origin, in their decision makings.

By holding the products' other attributes equal, this study tested the effect of the specific cue—country of origin—on participants' purchase intentions. After knowing the products have different countries of origin, participants did change their intentions for the products which they thought were the same before knowing the country-of-origin information. The results maintained that the product's country of origin is still relevant to consumers' consumption decision making. The country-of-origin notion still holds for manufacturers from developed countries who want to build on their competitive advantage to protect the strong images and for those from less-developed countries who want to enhance their images and to developed their ability to compete in global markets.

However, when economic factors of a product, among which the most important one is price, were present in the consumption situation, the country-of-origin effect tends to diminish in magnitude. As the results of this study imply, when the price of a product decreases, consumers will increase their buying intentions for this product even if they have a bias against the product's country of origin.

Among few researchers who employed price in country-of-origin study, Heslop, Liefeld, and Wall (1987) found that pricing policies and well-know brand names could not improve a negative country-of-origin effect. The fact that their study was done two decades ago may be able to explain the inconsistency of the result with that in this study. Today's global market is more integrated than that in 1980s. Places of manufacture may

not bear many different inferences for products for consumers and therefore influence their purchase behaviors. When other important product cues such as price present in the choices, an unfavorable country-of-origin image may be offset by a competitive pricing strategy.

The implication that economic factors play an imperative role in consumers' consumption decision making even though they hold the country-of-origin-image stereotype is particularly important to manufacturers in less-developed countries. To compensate for negative image effect, some countervailing strategy should be selected to enhance products' competition in markets. Price discounting is one of the powerful tactics.

However, a noteworthy issue is that the price discounting strategy works differently for different product categories. As the result of own-price elasticity comparison in this study implies, consumers tend to respond more intensively to price changes on nondurables from a less-developed country than to the price changes on durables from the same country. The products' substitutes with different countries of origin are a major determinant for consumers' responsiveness to price changes.

The results indicated that for those sophisticated, technology-related, and durable products from less-developed countries, price discounting as a market penetration strategy may not work as well as for easily made, non-durable products. Japan, South Korea, and several other countries have shown a way to success by gradually moving from producing penetration-priced and low value-added products to producing high-quality and higher-priced products involving greater degrees of technological

sophistication. Even if this model could be followed by other less-developed countries, pricing strategy should not be the only way to gain market shares and consumers' minds.

Few researchers have examined the price effect in country-of-origin studies and no one has compared price elasticity between different products under the context of country-of-origin image. A contribution of this study to country-of-origin research is that the researcher investigated the country-of-origin effect by employing other attributes of products, especially price. The finding may raise a concern of economic significance of country-of-origin image in future studies. Although failed applying the results to the economics of discrimination theory, the concept using price to measure image variables may be a useful method in future research.

Also, this study raised a question about how to define a country developed or less-developed country. Are consumers' opinions of a country's advancement consistent with the official criterion? It is imperative to know what kind of knowledge and opinions consumers hold about a country when they are asked to indicate their buying decisions referring to those personal judgments, which include their opinions of sourcing countries' economic advancement. Different consumers may have different or even opposite judgments about the same country. In future research, more specific questions regarding consumers' knowledge and image of manufacturing places may need to be asked to investigate the made-in effects on consumers' buying decisions.

Although it failed to apply the results to the concept of discrimination coefficient, this study offers implications for quantifying the country-of-origin effect. The economic factor of a product such as price could be an important measurement tool even for the 'head variable' such as an image held by a consumer. The price effect itself or the

interaction effect between price and other product attributes including country-of-origin image deserve further exploration in future studies.

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Country Name	Knowledge	Developed?	Image
South Korea	1 - 2 - 3	Y / N	1 - 2 - 3
Brazil	1 - 2 - 3	Y / N	1 - 2 - 3
Bolivia	1 - 2 - 3	Y / N	1 - 2 - 3
Mexico	1 - 2 - 3	Y / N	1 - 2 - 3
Poland	1 - 2 - 3	Y / N	1 - 2 - 3
France	1 - 2 - 3	Y / N	1 - 2 - 3
Malaysia	1 - 2 - 3	Y / N	1 - 2 - 3
Ghana	1 - 2 - 3	Y / N	1 - 2 - 3
Estonia	1 - 2 - 3	Y / N	1 - 2 - 3
Sri Lanka	1 - 2 - 3	Y / N	1 - 2 - 3
Nigeria	1 - 2 - 3	Y / N	1 - 2 - 3
Italy	1 - 2 - 3	Y / N	1 - 2 - 3
Cambodia	1 - 2 - 3	Y / N	1 - 2 - 3
Chile	1 - 2 - 3	Y / N	1 - 2 - 3
United Kingdom	1 - 2 - 3	Y / N	1 - 2 - 3
Philippines	1 - 2 - 3	Y / N	1 - 2 - 3
Sweden	1 - 2 - 3	Y / N	1 - 2 - 3
Spain	1 - 2 - 3	Y / N	1 - 2 - 3
Mongolia	1 - 2 - 3	Y / N	1 - 2 - 3
Germany	1 - 2 - 3	Y / N	1 - 2 - 3
Costa Rica	1 - 2 - 3	Y / N	1 - 2 - 3
Namibia	1 - 2 - 3	Y / N	1 - 2 - 3
Peru	1 - 2 - 3	Y / N	1 - 2 - 3
Netherlands	1 - 2 - 3	Y / N	1 - 2 - 3
Hungary	1 - 2 - 3	Y / N	1 - 2 - 3
Hong Kong	1 - 2 - 3	Y / N	1 - 2 - 3
Romania	1 - 2 - 3	Y / N	1 - 2 - 3
Denmark	1 - 2 - 3	Y / N	1 - 2 - 3
Norway	1 - 2 - 3	Y / N	1 - 2 - 3

APPENDIX B1

The questionnaire used in the experiment for the shirts

Suppose you plan to buy a shirt and that your options include the two units on the table. After examining them and considering the other information provided, how willing would you be to buy **product A**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

How willing would you be to buy **product B**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

After examining the products and considering the additional information provided, how willing would you be to buy **product A**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

How willing would you be to buy **product B**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

Suppose now the **price of the product A decreases to \$20**. Then how willing would you be to buy **product A**? Circle one:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

Suppose now the **price of the product A decreases to \$17.5**. How willing would you be to buy **product A** at that price? Circle one:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

APPENDIX B2

The questionnaire used in the experiment for the telephones

Suppose you plan to buy a telephone and that your options include the two units on the table. After examining them and considering the other information provided, how willing would you be to buy **product A**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

How willing would you be to buy **product B**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

After examining the products and considering the additional information provided, how willing would you be to buy **product A**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

How willing would you be to buy **product B**? Circle one of the following:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

Suppose now the **price of the product A decreases to \$22.5**. Then how willing would you be to buy **product A**? Circle one:

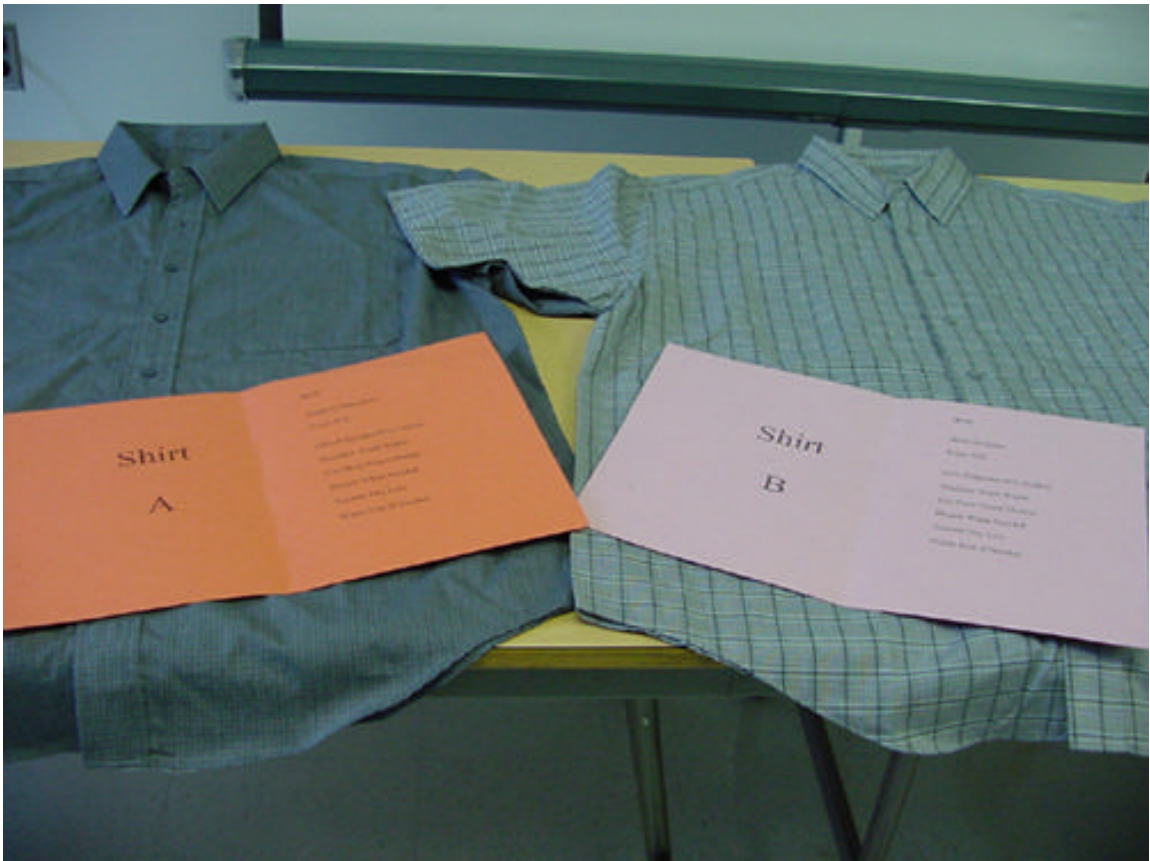
Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

Suppose now the **price of the product A decreases to \$20**. How willing would you be to buy **product A** at that price? Circle one:

Strongly Unwilling to Buy Somewhat Unwilling to Buy Somewhat Willing to Buy Strongly Willing to buy

APPENDIX C2

Picture of the shirts and labels used in the experiment



APPENDIX D1

The product descriptions on the information cards (telephone): without country of origin

Telephone A

900 MHz Cordless Phone

Features:

- 900 MHz Cordless Operation
- 10-Station Speed Dialer
- 40-Channel Autoscan System
- Automatic Talk and Stand-by
- Last Number Redial
- Handset Volume Control
- Handset Locator
- Flash and Pause Key
- Ringer Selector (Off/On)
- In Use/Charge Indicator
- Wall Mountable

Price: \$25.00

Telephone B

900 MHz Cordless Phone

Features:

- 900 Megahertz Technology
- 40 Channel Autoscan
- 10 Number Speed Dial
- Auto-talk and Stand-by
- Flash and Pause Button
- Last Number Redial
- Handset Volume Control
- Page Button
- In Use/Charge Indicator
- Ringer On/Off Switch
- Wall Mountable

Price: \$25.00

APPENDIX D2

The product descriptions on the information cards (telephone): with country of origin

Telephone A

900 MHz Cordless Phone

Made in Indonesia

Features:

- 900 MHz Cordless Operation
- 10-Station Speed Dialer
- 40-Channel Autoscan System
- Automatic Talk and Stand-by
- Last Number Redial
- Handset Volume Control
- Handset Locator
- Flash and Pause Key
- Ringer Selector (Off/On)
- In Use/Charge Indicator
- Wall Mountable

Price: \$25.00

Telephone B

900 MHz Cordless Phone

Made in Japan

Features:

- 900 Megahertz Technology
- 40 Channel Autoscan
- 10 Number Speed Dial
- Auto-talk and Stand-by
- Flash and Pause Button
- Last Number Redial
- Handset Volume Control
- Page Button
- In Use/Charge Indicator
- Ringer On/Off Switch
- Wall Mountable

Price: \$25.00

APPENDIX D3

The product descriptions on the information cards (shirt): without country of origin

Shirt A

- 65% Polyester/35% Cotton
- Machine Wash Warm
- Use Only Non-Chlorine
- Bleach When Needed
- Tumble Dry Low
- Warm Iron if Needed

Price: \$22

Shirt B

- 65% Polyester/35% Cotton
- Non-Chlorine Only
- Bleach When Needed
- Machine Wash Warm
- Tumble Dry Low
- Warm Iron if Needed

Price: \$22

APPENDIX D4

The product descriptions on the information cards (shirt): with country of origin

Shirt A

Made in Indonesia

- 65% Polyester/35% Cotton
- Machine Wash Warm
- Use Only Non-Chlorine
- Bleach When Needed
- Tumble Dry Low
- Warm Iron if Needed

Price: \$22

Shirt B

Made in Japan

- 65% Polyester/35% Cotton
- Non-Chlorine Only
- Bleach When Needed
- Machine Wash Warm
- Tumble Dry Low
- Warm Iron if Needed

Price: \$22