CHAPTER 1
INTRODUCTION

Apparel is a basic consumer good that accounts for 5 percent of total personal consumption expenditures. The apparel manufacturing and retailing sectors are an important segment of the U.S. economy. The apparel and related textile industries together employ close to 1.3 million people, who are nearly 7 percent of all manufacturing employees in the United States (U.S. Bureau of the Census, 1998a).

Apparel sales\(^1\) account for more than 14 percent of all retail sales and 11 percent of all retail employment (U.S. Bureau of the Census, 1998a). Women’s clothing constitutes the major share of consumer expenditures on clothing, accounting for about 50 percent of all average household expenditures on clothing (U.S. Bureau of Labor Statistics, 1995). Heightened domestic and international competition has led apparel companies toward a stronger marketing orientation. Information about determinants and patterns of consumers’ clothing\(^2\) expenditures will enable companies to better address consumer markets.

Most previous cross-sectional studies on determinants of clothing expenditures have examined socio-economic characteristics of families that influence dollar amounts spent on clothing. Researchers have analyzed expenditure determinants for all clothing of the household unit (e.g., Dardis, Derrick, & Lehfeld, 1981) or for clothing of every person in each household (e.g., Nelson, 1989). More recently, Zhang and Norton (1995) analyzed the expenditures on various clothing categories for different types of family members. An implicit assumption in all these studies was that all households faced the same vector of prices, that is, spatial differences in prices did not exist. This assumption is questionable, especially for goods such as clothing where prices are affected by region or retailer type or by featured store sales. In many cases, retailers offer different products based on store location, making it impossible for consumers to buy identical goods across

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\(^1\) Apparel sales and employment are calculated as the total of sales and employment of apparel stores plus half of sales and employment of general merchandise stores (U.S. International Trade Commission, 1995).

\(^2\) The terms “apparel” and “clothing” are used here to have the same meaning; the former is more common in the business context, and the latter in the consumer context.
regions or cities. A problem faced by researchers is that cross-sectional data generally contain information on total expenditures for goods, and not on individual prices. A unit price, obtained by dividing total expenditures on a good by the number of units purchased, does not provide an adequate representation of the true, underlying price index, because all the units are not homogeneous.

Clothing, as the subject of demand analysis, presents a problem in the aggregation over the different goods that form a single category. Large quality variations exist within each category formed by a clothing type, such as dresses or shirts. For example, innumerable variations of dresses are available, with many different prices and qualities. It may be impossible to obtain price data for each item or even groups of items within a category such as dresses, and even if such data did exist, demand estimation on such a detailed level may be impossible due to insufficient degrees of freedom. In order to account for quality variations, this study estimates consumers’ quality choices for women’s clothing based on a set of consumer characteristics and based on the assumption that consumers’ quality choices are proportional to the prices they pay. Ignoring quality differences leads to biased demand estimates (Polinsky, 1977; Trandel, 1991). No study was found that attempted to incorporate the effects of consumers’ quality choices on consumer expenditures or expenditure shares for women’s clothing.

Apparel expenditure patterns are affected by the ongoing demographic changes in the U.S. population, such as the increased proportion of the population constituted by non-Whites (U.S. International Trade Commission, 1995). The apparel industry has been focusing on the changing demographic patterns of consumers, and apparel industry analysts have been closely monitoring ethnic changes (The Wall Street Transcript, 2000). Understanding differences in clothing expenditure patterns among ethnic groups will help apparel manufacturers and retailers to better develop apparel marketing strategies for distinct market segments.

The research literature indicates that different racial and ethnic population groups have distinct patterns of expenditures due to differences in socio-economic, and sometimes
cultural characteristics (Paulin, 1998; Wagner & Soberon-Ferrer, 1990). Although clothing expenditure research has a long tradition of including race as an independent dummy variable (Norton & Park, 1986), the results regarding effects of race on the expenditures have been inconsistent. A possible reason is that race is described in terms of phenotypic characteristics of the person, such as skin color, hair type, and physical features. People with similar phenotypic characteristics do not necessarily form a homogeneous group in terms of expenditure patterns. The concept of ethnicity is relatively new in expenditure analyses. Classifications by ethnicity are according to cultural affiliations, irrespective of race. Members of an ethnic group show similarities in values and lifestyles, and they may display comparable expenditure patterns.

Because clothing is a basic consumer good, information on how different consumer groups allocate their expenditures to apparel and to apparel categories is of interest in policy making, such as that involving taxation. Taxes or subsidies on clothing categories may affect the real income of population groups depending on the proportion of their income spent on those clothing categories; policies based on average clothing expenditures and on general population spending patterns ignore effects on specific groups.

The objectives of this research are to determine the relationship between household characteristics and the expenditure shares allocated among various categories of women's clothing for U.S. households belonging to different ethnic groups. The study also attempts to estimate the effect of product quality choice on the expenditure shares of various categories of women's clothing using an unobserved latent quality variable. A latent variable approach is utilized because information on product attributes of apparel items purchased is not available. Thus, product quality is unobserved. The study uses cross-sectional data from the Consumer Expenditure Survey of the U.S. Bureau of Labor Statistics, for the period 1995-96. A unique feature of this clothing expenditure study is the use of the Structural Equations Model (SEM) in the data analysis. The use of the SEM allows the estimation of equations that are influenced by latent, unobserved variables, such as consumers' underlying choices of quality. SEM can provide solutions
for equations that may be impossible to estimate through traditional methods such as Ordinary Least Squares or Maximum Likelihood regression.

Only a few studies have examined the effects of ethnicity on consumer expenditures, and, in those studies, apparel has been one of many composite goods analyzed. No study was found to have examined household-level demand for detailed apparel categories by different ethnic groups. Also, most previous studies used expenditures on clothing or clothing types as the dependent variables, whereas this study uses expenditure shares. When expenditures are expressed as shares, it is possible to discern patterns of household allocations among goods. Determinants of consumer expenditure share allocations on different goods are of greater interest than determinants of absolute dollar amounts spent on goods, because expenditure share allocations show the spending on one good relative to total expenditures, as well as relative to other goods.

The subsequent chapters are as follows. Chapter 2 contains a discussion on issues related to race and ethnicity, a review of the previous empirical research on apparel demand, and a review of neoclassical consumer demand theory as related to this research. Chapter 3 presents the data, empirical model, variables and the estimation method used in the study. Chapter 3 also contains the research hypotheses, their rationales and their testing, and the limitations of the study. Chapter 4 presents and discusses the results of the empirical model, and Chapter 5 contains conclusions and implications of the study.