A STUDY OF RETAIL FOOD PRICES IN THE UNITED STATES VIRGIN ISLANDS

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Prepared for VI Department of Licensing and Consumer Affairs

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This study is the result of many months of work by several individuals. The professionals who made up the team represent areas of expertise in business management, accounting, marketing, finance, microeconomics, data analysis and statistical methodology. Some of our team members work on the St. Croix campus, and we were often hampered by difficulties in their ability to secure timely flights to the meetings which were held on the St. Thomas campus. The intervention of hurricane *Hugo* only served to extend the date of completion of this work.

We are particularly appreciative to Mr. Malcolm Kirwan, Vice President for Business and Financial Affairs, for the voluntary contribution of his time and support to this study. His penetrating insights and incisive questions were invaluable in keeping the team on track in many of its deliberations. In addition, his knowledge and experience in business management often provided the basis for his critically constructive comments of the work as it progressed.

Three members of the team are currently in the Division of Business Administration. Dr. James Williams is Chairman of the Division of Business Administration and Assistant Professor; Mr. Francisco Depusoir is Assistant Professor of Accounting on the St. Croix campus; and Mr. John Munro is Visiting Associate Professor of Data Processing. Dr. Williams made significant contributions to the study with his expertise in price and marketing theory. He also contributed in several other areas, most notably in traveling to Washington to research many libraries, in assisting

substantively with the construction of the survey questionnaires, and in organizing the focus group meetings. Professor Depusoir joined the team to replace Mr. Francois Dominique. (Mr. Dominique was at that time an Extension Specialist in Community and Rural Development with the VI Cooperative Extension Service in St. Croix. Before leaving his position, he had done extensive preliminary work in the development of the instrument that was used to gather local food prices data.) Professor Depusoir's background in accounting was critical to our understanding of the layers of taxes and fees that are inherent in the local wholesale and retail food industry. We are also appreciative for his direct assistance in obtaining food prices data in Miami, St. Maarten, and St. Croix. His willingness to assist throughout the study was commendable. Professor Munro provided total support in microcomputer data entry and generation of the food prices data tables. He also gave considerable input in the interpretation of many of the data tables.

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Frank L. Mills
Director, CRI
February, 1990

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0. HIGHLIGHTS OF THE FINDINGS

¶ **An aggregated price comparison reveals that USVI supermarket prices were substantially higher than state-side supermarket prices in all the food groups surveyed in the study.**

¶ **Overall, prices of food are 17 percent to 29 percent higher in the USVI than in Puerto Rico or on the mainland.**

¶ **Depending on the selection of foodstuffs purchased, a consumer in the USVI may pay from 9.4 percent to 33.7 percent more for the surveyed food items.**

¶ **Miami is the principal immediate source for much of the food consumed in the VI.**

¶ **The greater the distance of the Caribbean locations--USVI, San Juan, St. Maarten--from the source of food, the greater the difference in prices.**

¶ **Frozen items have higher price differentials than non-frozen items.**

¶ **A food basket which costs about $71 in Miami will cost $83 in San Juan, $100 in the VI, and $108 in St. Maarten.**

¶ **On average, food group prices are lower than those in the VI as follows: dairy products in San Juan, 19 percent; frozen foods in Miami, 31 percent; groceries in San Juan, 44 percent; produce in Miami, 29 percent.**

¶ **Management of the two major supermarkets reportedly uses the national norm of a one-percent net profit as a bottom line goal for successful operation.**

- **The industry is dominated by two firms. No evidence of collusion in price setting was found among the firms, although observation indicates that the price-setting of the perceived leaders is followed indirectly when expediency dictates.**

- **The cost contribution of labor to the food industry in the USVI is at least 45 percent, a cost comparable to, or higher than, the nation's labor food cost index.**

- **Certain structural characteristics of the VI economy such as the frequency of interruption of basic infrastructural services add to the normal costs of firms doing business, and concomitantly, add to the costs of the consumer in higher prices.**

- **Management asserts that shrinkage contributes about four to six percent above ordinary costs.**

- **Other costs incurred here by food retailers which tend to be higher than elsewhere include freight and brokerage customs duties, utilities, excise and gross receipts taxes.**

1. PREFACE

1.1 Description of the Caribbean Research Institute

The Caribbean Research Institute (CRI) was formally established in 1965 and conceived to fulfill two functions: 1) in respect to the United States Virgin Islands, CRI was to act as a central research agency; and 2) CRI was to undertake and facilitate research throughout the Caribbean region.

The philosophical mission of the Institute is to serve as a coordinating and clearing house for faculty research; to provide research support to various United States Virgin Islands government agencies; to conduct sponsored research; and to develop scientific linkages with Caribbean counterparts to broaden the professional perspective.

The functional mission of CRI is carried out through the three centers into which it is organized: Social Research, Water Resources Research, and Environmental Research. In this configuration, the Institute has developed and administered projects in Virgin Islands history, social and economic problems, and the decennial census; in water quality and supply; in land and resource management, and wildlife and fisheries biology. CRI also operates a field station at Lameshur Bay, St. John, called the Virgin Islands Ecological Research Station.

CRI is an integral part of the Research and Land-Grant Programs which are under the leadership of Vice President Dr. Darshan S. Padda. The Institute is managed by its Director, Dr. Frank L. Mills.

2. TERMS OF REFERENCE

2.1 Mandate

The Department of Licensing and Consumer Affairs, Government of the Virgin Islands, pursuant to Act No. 5364 (Bill No. 17-0104) contracted with the University of the Virgin Islands "for the implementation and conduct of a comprehensive and in depth study on the causes of high food prices in the Virgin Islands".

2.2 Objectives

This study, conducted by CRI, attempts to answer four general questions:

a. What is the nature of the cost structure of specific type and size of food retailers in the Virgin Islands?

b. What are the existing retail prices for selected food products?

c. What is the nature of the competitive structure in the retail food industry?

d. What are the opinions and perceptions of selected business leaders/other experts relative to these cost/price relationships in the Virgin Islands?

To answer these questions, determination must be made of:

a. (1) the physical distribution costs incurred by food retailers when goods for resale are purchased from off-island sources;

(2) the various taxes on the purchase of food products for resale and the relation of these taxes to total costs;

(3) hidden costs of retailing food products in the Virgin Islands and their impact on consumer prices; and

(4) any other elements of cost which significantly influence the consumer price level.

b. (1) the level of retail prices for selected food products on a recent date in the Territory and comparative off-island areas.

3. INTRODUCTION

3.1 Overview: USVI Economy

The economy of the U.S. Virgin Islands is best characterized as a microstate economy with limited natural resources. This economy is heavily dependent on the foreign trade sector and services for employment and income generation. Estimates of the impact of tourism on the Gross National Product vary from 60 to 75 percent. The ratio of imports to exports in the United States Virgin Islands approximates $1.13 through $1.50 imported for every $1.00 exported. If the contribution of Hess Oil is removed, the economy is more starkly dependent on the foreign trade sector.

Over the years, the decision makers in the USVI have engaged in activities promoting the islands with a variety of fiscal incentives instituted to attract businesses, mainly those tourist-oriented. With this single-minded approach to development, imported goods and services have entered the economic structure at prices which appear to have markups higher than goods and services in a demarcated and structured economy comparable to the USVI. No easy comparison exists for the USVI economy situated between the traditional Caribbean economic structure and that of the advanced U.S. economy. This economic straddling apparently results in the USVI system in all areas, in prices which tend not to be in accord with the income levels of the vast majority of territorial consumers.

By comparison, in all tourist economies a cost-push type of inflation normally is pervasive. Because so many goods and services are imported into

the USVI economy, a certain quantum of their costs, pushed up from the need to import, is passed on to the local consumers. In addition, wage-push, profit-push, and commodity inflation are all part and parcel of cost-push inflation. In essence, no one monolithic reason for inflationary tendencies exists in the USVI.

Cost-push inflation in the USVI economy, however, results principally because factor payments to various groups traditionally rise faster than the increase in productivity and technical efficiency.

To understand the nature of prices in the USVI and to attempt to determine why they appear to exceed the capacity of the majority of the people to meet those prices, a full examination of the impact of the tourism industry on the local economy is required. Also needed is an examination of the relationship in the USVI between those wages which tend to nominally parallel the wage structure in the USA, but which do not parallel the USA system in technical efficiency and productivity. Assessment must be made of the nature of aggregate demand for goods and services with an attempt to quantify the impact of the gap between aggregate demand and supply for goods and services.

Finally, determination of the real impact of the population growth, stratification, and the attendant consumption patterns on the nature of prices in the economy is necessary. In a proverbial sense, if the economy is growing on 'salt-fish income' but is demanding 'caviar activities', some distortion in the aggregate demand/supply relationship is inevitable. These are only a few of the features and factors that should provide some insight into the nature of the price structure in the economy of the USVI.

3.2 Retail Overview

An attempt by the research team to obtain data on the number of retail food outlets and the market share of each group was not successful. With the limited data available, the study cannot address in depth the volume of each of these food outlets or the impact on retail prices. Nevertheless, supermarkets and large grocery stores appear to account for a significant quantity of the food items purchased in the Territory. The other types of food outlets, no frills, neighborhood groceries, convenience and specialty food stores account altogether for a much smaller percentage of food sold in the USVI.

Supermarkets and large grocery stores purchase in large quantities and import in containers consigned directly to them. On the other hand the smaller food outlets may have to purchase in smaller quantities and therefore lose quantity discounts, or by purchasing from sub-distributors, pay their additional costs of doing business.

The larger the food outlet is, the greater its gross receipts tax burden. By law (VIC Title 33, Sec. 43), a tax of four percent is imposed on the annual gross sales of a business.

Productivity of employees and greater fixed costs such as utility costs created by more square footage engender analytical measures that can be significant in the study of the retail structure of food outlets--large vs small. However, the lack of data prevented such an analysis of the retail food outlets operating in the USVI.

3.3 Consumer Market

Three primary markets account for the consumption of food in the Territory: tourism, restaurants and hotels, and the resident population.

Measuring the impact on local food consumption of the tourism sector of the market is not an easy task since many cruise ship tourists tend to take their meals on board. Some purchasing of food is done by the cruise ships themselves through ship chandlers.

Many tourists who arrive by air remain in hotels or condominiums. Consumption of locally purchased food by this sector of the consumer market is presumed to be much greater than that of tourists who arrive for the day on cruise ships. Large numbers of hotel guests dine at restaurants throughout the Territory and their food consumption should have profound effects on the demand side of the consumer market. The condominium dwellers enter the consumer market of local residents as well as that of the restaurants.

The third, and perhaps largest, sector of the consumer market is that of local residents. In a small island economy such as the U.S. Virgin Islands, with a population of 110,000 and a limited market, consumer demand has significant effects on food prices. The consumption and demand patterns for the three major sectors differ significantly and to fully understand the importance of the consumer market for food consumption in the Territory, hard data needs to be available.

3.4 Cost Structure

The cost structure of a food store is normally very detailed to cover all transactions which occur. Purchases for resale encompass many diversified lines of merchandise and different brand names for the same product. The primary objective of a cost structure furnishes management with the necessary information regarding the operation of each department and/or the entire store. Costs are generally reckoned in terms of cash or its equivalent expended to acquire goods and services to achieve an economic benefit which permits the profit-making ability of the firm. The system utilized should be flexible to enable management to determine profit or loss and make proper decisions on a timely basis.

This structure of a food store encompasses the orderly classification of the almost infinite variety of costs incurred. These costs are collected into groups called elements which are established in accordance with the broad economic functions common to the food industry. The functions include manufacturing (production), sales (distribution), and administration (management).

The interrelationship of the functions and their corresponding cost elements in the operation of non-manufacturing environments such as wholesale, retail, and service industries must be understood in order to determine the sufficiency of a firm's profit or its pricing strategy. In the food industry, management combines such costs as labor, property, plant and equipment, utilities, taxes, purchases and other costs to produce a variety of goods to satisfy an assortment of human wants and needs. The costs of the different factors needed to produce such goods, to sell them,

and to administer the company must be measured and reported in a manner which will enable management to regulate all factors in the interest of maximizing profits.

The major categories of costs for food retail entities doing business in the U.S. Virgin Islands include: 1) inventory, 2) labor, 3) taxes and fees, 4) cost of capital, 5) marketing and public relations, 6) risk management, 7) utilities, 8) plant facilities, 9) management, and 10) miscellaneous.

Inventory. Most merchandise is purchased primarily from three sources namely, Associated Grocers, Certified Grocers, and Malone and Hyde. Some purchasing is done through a few local distributors. The sourcing of merchandise is very important as large volume purchases and the availability of a wide assortment of food allows for discounts.

Labor. The cost of labor has a direct relationship to the productivity of a food store. Labor rates in the U.S. Virgin Islands, with a territorial minimum wage of $4.25, have already been relatively high. Now, in conformity with the recently mandated federal minimum wage of $4.65, an additional series of costs are incurred. In 1987 labor represented 45 percent of the nation's food cost index. The U.S. Virgin Islands food industry should be experiencing at least an equal, if not greater, cost contribution compared to the national average of labor to food shelf prices.

Additionally, the focus group, assuming a lower rate of productivity in the USVI, alleged that the labor force of supermarkets operating here is

much larger than supermarkets of comparable size operating on the U.S. mainland.

Taxes and fees. The taxes and fees paid for a labor force include payroll taxes--social security taxes (FICA), Federal unemployment taxes (FUTA), Virgin Islands unemployment taxes and workers' compensation.

Gross receipts taxes are imposed on total gross business receipts without reduction for cost of goods sold or other expenses. Firms with annual receipts in excess of $150,000 pay four percent on total receipts whereas firms with annual receipts of less than $150,000 pay four percent on all receipts in excess of $5,000 per month. These are selected exemptions relative to the latter calculation.

Excise tax is imposed on all goods imported into or manufactured in the U.S. Virgin Islands for sale in the course of trade or for processing or manufacturing within the Territory. The rate is usually two percent to ten percent of invoice value plus five percent markup.

Franchise tax is annual tax of $1.50 for each $1,000 of capital stock with a minimum tax of $100.

Corporate income taxes are based on a three-bracket graduated corporate rate structure with a top rate of 34 percent.

Taxable Income	Tax
Less than $50,000	15% of taxable inc.
$50,000 - $75,000	$7,500 + 25% excess over $50,000
$75,000 - $100,000	$13,750 + 34% of excess over $75,000
$100,000 - $335,000	$22,250 + 39% of excess over $100,000
$335,000	34% on all taxable income

An additional surcharge of 10 percent is imposed by the Virgin Islands government on the calculated tax for all corporations paying income taxes in the Territory.

Fees. All businesses operating in the U.S. Virgin Islands must obtain a business license and pay the appropriate license fee which is renewable annually. Licenses for food outlets range from a basic $100 for a strictly retail outlet, but if a business imports, and/or wholesales, additional fees of $200 and $250 respectively are imposed. If liquor is included in a retail outlet, a further license fee of $250 must be paid.

Custom duties are imposed under a combination of federal and local law and administered by the U.S. Customs Service. The maximum duty rate is six percent of the invoice value of foreign goods.

Another cost of doing business is cost of capital which includes interest on debt for assets such as machinery, equipment, and cash advances to forward purchase inventory.

Marketing and public relations costs include costs of advertising which businesses incur to attract customers to their stores, entertainment,

and contributions. The latter two costs are incurred primarily by larger businesses to foster goodwill and public relations.

Risk management costs refer to insurance and store security. Liability insurance for food stores in the U.S. Virgin Islands is extremely high as businesses strive to protect their assets. Pilferage, another cost that is reputed to be higher among food stores operating in the Territory than among those on the U.S. mainland or even among those in Puerto Rico. In an effort to curtail the pilferage, security measures are implemented to reduce or prevent high shrinkage.

Utilities. Water, electricity, and telephone represent the bulk of these costs. Food stores must refrigerate their perishable items. The cost of refrigeration in the U.S. Virgin Islands is generally high among food stores largely because of the maintenance costs (generators, fuel charges, air-conditioning, power outages, and surges) involved.

Long distance telephone call costs are generally high since a large number of orders are made via telephone.

Plant Facilities - Rent, general maintenance and depreciation are some of the major costs in this group. General maintenance for a large food store is usually expensive and scarcity of space and of prime locations create high rentals.

Management Costs - The costs associated with this category include compensation of officers, travel and employee benefits, which costs are generally determined at the corporate level.

Miscellaneous Costs - Bank charges, supplies, and bad debts are some of the major cost items usually found in this category. Bank charges represent a significant cost largely because large numbers of checks are returned unpaid to food stores. Store supplies such as the extensive use of shopping bags and other packaging also represent a high cost item.

The smaller or independent retail food outlet may reduce some of these expenses and eliminate others. Insurance costs or employee benefits may be maintained at a lower level of cost. Contributions, entertainment, security or garbage removal may be eliminated. In a cash-only operation bad debt is virtually non-existent.

Many of these costs, if not on the same cost level, are applicable to mainland food retail stores, but some are not, specifically gross receipts and excise taxes. In the surveyed areas food in retail outlets selling packaged goods is exempt from sales taxes. Customs duties are not apt to apply directly to items in the inventory.

3.5 Sources of Supply and Distribution

The distribution system for food products, one of the most important commodities imported into the Territory from the U.S. mainland and other countries, relies heavily on mainland facilities. While air transportation delivers some perishable products to the islands, the majority of food shipments arrive on ocean carriers. Inherent in the distribution of food to the Territory are wholesale distribution, shipping and air freight, trucking, warehousing, and customs and excise taxes.

3.5.1 Wholesale

Wholesale distribution is an integral part of the food distribution network since wholesalers provide primary distribution to retailers who, in turn, supply the consumer. Distribution is frequently provided directly to the consumer at both wholesale and retail prices. In the first instance a secondary distribution occurs.

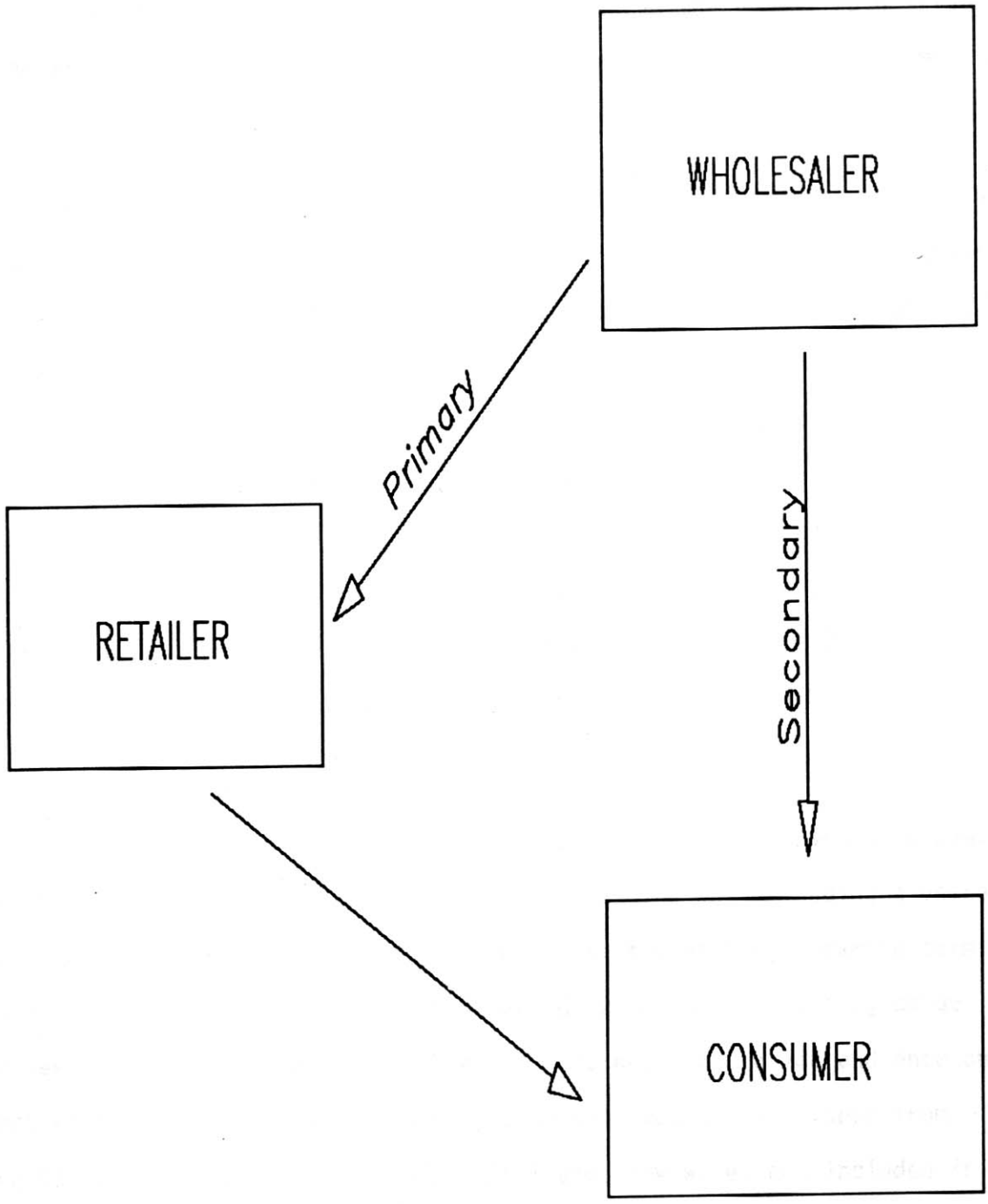
Wholesale distributors in the U.S. Virgin Islands are usually in an extremely good position to take advantage of discounts as a result of their buying habits, namely, large volume of one product. Considerable savings to the consumer may be passed on when such purchases are made.

The services provided by wholesalers are, by and large, in the form of bulk sales. Individual consumer sales represent a much smaller portion of their market. A wholesaler often is the exclusive distributor of many of the items which it sells. Its buying sources may be the same sources used by Territorial supermarkets or independent food distributors on the U.S. mainland. Figure 1 depicts a flow chart of typical wholesale distribution network.

3.5.2 Shipping and Air Freight

An island economy must depend upon either air or ocean transportation to move commodities from the sources of supply to those of demand. Of these two modes of transportation, ocean shipping carries the bulk of the cargoes. However, the size of the Virgin Islands market reduces the feasibility of major carriers to provide direct ocean service from the U.S. mainland without some transshipment of cargo.

Fig. 1: Wholesale Distribution System



The Virgin Islands imports significant quantities of food from off-island sources, mainly the U.S. mainland. Consequently, prices of groceries at the retail level must include transportation costs.

Presently, three major ocean carriers serve the U.S. Virgin Islands, namely: Tropical Shipping, Trailer Marine Transport Corporation (TMT), and Navieras de Puerto Rico.

Tropical Shipping operates direct service between southern Florida--Miami and West Palm Beach--and the Virgin Islands with two weekly sailings. Trailer Marine Transport, a subsidiary of Crowley Maritime Corporation, sails mainly from Jacksonsville and Port Everglades, Florida, Philadelphia and Lake Charles, Louisiana. TMT provides direct service to the islands only from Port Everglades with all other shipments coming via Puerto Rico. The other major shipper, Navieras de Puerto Rico or Puerto Rico Maritime Shipping Authority (PRMSA), which is owned and operated by the government of Puerto Rico, offers services from Elizabeth, New Jersey, Jacksonville, and New Orleans. Cargo destined for the Virgin Islands on board Navieras de Puerto Rico moves first to Puerto Rico.

Carriers' costs include two elements--terminal costs and line-haul costs. Terminal costs include charges for loading and unloading a vessel, billing, stevedore wages and the fixed costs of operating a marine terminal facility. These latter costs are incurred twice in transporting cargo between U.S. mainland ports and Puerto Rico, once in Florida and once on arrival in San Juan; and the same is true when goods are shipped from Puerto Rico to the Virgin Islands. Fuel and crew wages are included in line-haul costs. Line-haul costs, unlike terminal costs, often vary

directly with the distance the cargo moves.

Although cargo travels only one way to the Virgin Islands from the U.S. mainland, line-haul costs are usually for a round trip. Very few containers return to U.S. ports filled with cargo from the Territory. Therefore, consumers essentially bear the cost of the empty bottoms returning to the port of origin.

Products requiring controlled temperatures or refrigeration are generally shipped at higher rates than goods moving in dry or non-refrigerated containers. The costs of needed special equipment such as on-board generators and special control temperature monitors and their maintenance are passed on to the shipper in higher freight rates. Consequently, the absence of backhaul cargo and the existence of these additional fixed costs increase shipping costs for the Territory.

3.5.3 Trucking

Once containers are unloaded, customs completes its inspection, the necessary documentation is finished, and the appropriate duties paid to the U.S. Customs, the Excise Taxes to the Virgin Islands Government. The containers are then moved from the port and located at their destination by an on-island trucker.

Trucking is very competitive in the Territory since numerous trucking companies operate container hauling businesses. A comparison of the rates charged for trucking indicates, in most cases, parity between rate levels. Trucking rates vary depending largely on the terrain and distance containers must move. A field survey of four trucking companies selected

from St. Thomas and St. Croix indicates that increased container size does not affect average trucking rates.

Cargo trucked to Charlotte Amalie, St. Thomas, and Christiansted or Frederiksted, St. Croix averages $75 per container. However the average fees per container to outlying areas vary depending on the distance, from $125 to $200 per container in St. Thomas and from $100 to $150 in St. Croix. The differences in these rates reflect the physical differences in the terrain between the islands.

3.5.4 Warehousing

To have a true picture of the impact of shipping on the price of food, the movements of food products from the source to the islands should be traced.

Foods destined for the islands must first be railed or trucked to warehousing facilities located either in the New York/New Jersey area or Florida. The two major supermarket chains operating in the Virgin Islands maintain warehouses in these locations as well as in Puerto Rico. Additionally, costs of drayage are charged for the transportation of containers from the warehouses to the ports from which the ocean carriers sail. Some carriers absorb this charge, whereas others pass these charges on in the form of higher freight costs.

Therefore, warehousing also becomes a distribution factor to be considered in the movement of food from the U.S. mainland to the islands.

A perishable cargo has greater risk of spoilage and/or damage and higher rates to cover such risks. Over a week may be required to move food cross-country, store it in a warehouse, and then ship it via ocean shipping and on-island trucking to the store shelves.

3.5.5 Customs and Excise Taxes

Customs duties in the USVI, imposed under the U.S. customs law, are administered by the Customs Service, U.S. Treasury Department. Customs duties are at the rate of 6 percent ad valorem on all articles, goods, merchandise and commodities having a place of manufacture or origin outside the territorial sovereignty of the U.S. and brought into the Virgin Islands. Currently large quantities of fruits and ground provisions are imported from foreign countries.

Excise taxes are levied only on goods imported into the Virgin Islands for business use or resale. For the taxable figure on which excise taxes are computed, five percent of the net invoice price is added to the original invoice total. The prescribed tax rate, which varies by item category, is then applied to this new invoice total. Foodstuffs, livestock feed and educational materials are excluded from excise taxes. Generally non-exempt items, not otherwise classified, are levied at three percent.

Customs duties, excise taxes, despite the exemptions, and brokerage fees appear to be a significant cost of doing business in the Territory.

3.6 Pricing and Pricing Strategies

For decades, food prices have been the subject of consumer interest and concern on regional, national and international levels. Formal research efforts over the past half century have been undertaken by various government agencies, quasi-government organizations, and private groups to understand, evaluate and predict distinct areas of man's second most important sustenance--food. Present day national and regional concerns are typically concentrated around the quality and price of foods. The concept of market basket arose from the attempt to ascertain the contribution of selected (typically consumed) food costs to the overall expenditures of stratified end-consumers' groups. Probably the most well-known ongoing studies of the end-consumer's market basket have been the annual and quarterly studies conducted by the U.S. Department of Agriculture, U.S. Department of Labor--Bureau of Labor Statistics, and the American Chamber of Commerce Researchers Association monthly studies which are in detailed presentations of the nation's cost of living.

Much of the earlier food study research, particularly during the mid-40's, centered around national and international food shortages, efficient production systems and distribution inequities.

These studies focus on the cost of living index and offer an understanding of not only price changes of selected items over periods of time, but also regional price differences of designated Metropolitan Statistical Areas (MSA) throughout the United States and its territories. National MSA's range in population size from a scant 2,500 to over 7 million. The MSA comparisons have presented an intriguing view of the cost

of food items and food groups from various parts of the nation. The indexed reports have shown, within the same period, 20 percent+ price differences of selected food items in distinct regions of the nation. These price differences suggest that non-farm cost factors such as distribution, localized demand, market, and competition play a significant role in the determination of shelf (retail) price of food items.

From a national perspective, the Economics, Statistics, and Cooperatives Service in conjunction with the U.S. Department of Agriculture reports that "...the food price system has become more dependent on production factors outside of its control, such as labor, energy, and capital. These factors are increasing in cost at relatively fast rates" (Boehm & Kite, 1979, p. iii). This phenomenon continues to impact virtually all end-consumers, with the degree of intensity based, in part, on the regionally weighted costs of the above-mentioned factors. Clearly, the concept of efficiency and efficient markets comes into consideration when one views these national food pricing issues.

This same study additionally reported that "...the food system has become more concentrated. There are fewer farmers, fewer processors, fewer retailers, and fewer input suppliers. This increase in firm concentration increases the potential for higher prices" (Boehm & Kite, 1979, p. iii). From such a situation develops the concept of oligopoly pricing in which a few firms within a select industry tend to protect one another in a less than full competitive nature.

Pricing strategies have classic representation in most current marketing tests but their inherent implications are seldom revealed and/or

compared to the 'real' world situation. The three most common pricing strategies, 1) market-oriented pricing; 2) cost-oriented pricing; and 3) performance-oriented pricing, are traditionally employed either singularly or in combination by a major portion of the retail industry. The food industry tends to follow this national pattern.

These pricing strategies tend to be employed within distinct patterns associated with the size and type of food outlet as well as the intensity of competition. The larger the food outlet and the higher the level of competition within its geographical market, the greater the likelihood the food outlet utilizes a mix of food pricing strategies of which market oriented pricing and performance oriented pricing tend to be the most common. The smaller the size of the food outlet coupled with a low level competitive environment, the greater the likelihood the food outlet employs only one pricing strategy, most commonly the cost oriented pricing strategy.

These pricing strategies carry profound implications towards food shelf pricing. Cost-oriented pricing strategy responds to such concepts as: a) cost-plus pricing; b) break-even analysis; or c) standardized mark-up. The determination of shelf price is, therefore, solely based upon the effectiveness of cost management. Order-volume, inventory management, labor, energy and distribution within the U.S. Virgin Islands are all hampered by the size of the market and its geographical location. These factors are likely to result in consistently high shelf prices of food items.

Performance-oriented pricing strategy considers some or all of the following: a) store profitability; b) department profitability; c) return on investment; or d) cash flow. In the use of performance-oriented pricing, the store management looks at the efficiency and productivity of its operation as an entity. Efficiency/productivity management tends to present relatively moderate to low shelf prices of food items.

Market-oriented pricing strategy tends to be the most fluid and the most vulnerable of the three strategies. This strategy pays attention to: a) market share; b) consumer demand; c) survival; d) competition; and/or e) product promotion. Traditionally, only the larger, more sophisticated operations employ this strategy. The strategy is seldom employed by itself unless the market population is vast and the amount of competitors substantial and quite sophisticated. Such stores frequently offer to their customers loss leader specials (products priced at or below invoice cost), multiple-value coupon redemption (up to three times the value of the coupon), and/or volume discounts for bulk purchases. This strategy, utilized frequently in the larger MSAs of the mainland, is pleasing to the end-consumer, and results in the lowest shelf prices of food and non-food items.

The U.S. Virgin Islands stores included in this survey reflect a consistent pattern based on previous national food pricing studies as in Table 3-1.

Table 3-1. Strategic Food Price Setting - USVI

Store Category	Percent Employed		
	Market-Oriented	Cost-Oriented	Performance-Oriented
Supermarkets	55.0	35.0	10.0
No-Frills	22.5	67.5	10.0
Specialty	19.5	71.5	9.0

As noted above, the supermarkets employed market-orientation in price setting more than the other two categories. However, the no-frills and specialty stores' price setting was heavily based upon a cost-oriented strategy.

Performance-oriented pricing requires tracking of all itemized inventory and departments and their respective sales. Consequently, performance oriented price-setting was employed very little by any of the local island stores. Traditionally, only large scale operations with access to advanced computer systems can afford the level of sophistication required to monitor and measure such activities.

A food cost study produced by the Economics Research Institute in Washington, D.C. noted that retail food prices also reflect costs not directly related to farm prices or supplies. Further, farm value contributed only 30 percent to the retail food price for all foods in the Bureau of Labor Statistics Market Basket in 1987 (Dunham, 1987). Thus a decrease in farm value may be partially or completely offset by increases

in processing and local marketing costs which include promotion, distribution, energy, labor, and/or physical structures. Included also in the 70 percent of food prices based on these other factors is that of profit.

Food is primarily distributed by, and to, private sector, profit oriented, organizations. Through the chain of distribution, profit factors taken from each segment of the chain add to the eventual shelf price of the food item. Oligopoly pricing can have a profound effect on profit taking and profit aggregate amounts. However, in the last decade, food industry input costs and productivity have played a major role in the cost of foods. Pretax margins of food chains typically averaged about 1.8 cents per dollar on sales and slightly over 1 cent after taxes (Dunham, 1987). Though low as a percentage of sales, the absolute profit in dollars appears significant due to volume sales and high inventory turnovers. The U.S. Virgin Islands market population, however, does not permit the volume for this absolute dollar profit achieved by the national food chains on the mainland.

According to the 1987 Economics Research Institute report, the farm-to-retail price spread rose 43 percent during the period 1980-87 (Dunham, 1987). To some extent, the relationship of farm-to-retail price spread tended to follow the general inflation rate suggesting that input costs of the food industry have responded to the higher food processing and distribution charges. This study revealed additionally that the largest single component of the input cost for food price determination was, in 1987, labor costs which averaged around 45 percent of the food cost index

(Dunham, 1987). Food containers and packaging materials represented 15 percent of the food cost index, transportation and energy 11 percent and 8 percent, respectively (Dunham, 1987).

Consumer demand is also a critical factor in determining food prices. The evolving nature of consumption and buying habits has profound effects on the demand side of the market system. With all other variables held constant, the larger the consumer group the lower the retail prices, is a commonly accepted premise in the food industry. Similar findings indicate no change regardless of geographical location of retail food outlets and seasonal patterns.

Consumer demand should reflect a negative price-demand condition. Even with a transient population added to the census figure of 110,000, the absolute demand in the USVI is not by itself large enough to lower food shelf prices. Limited market demand also increases for the food retailers the operating risks incurred by product shelf life and inventory turns. Productivity measures derived from economies-of-scale due to volume-order inventory management would also be hampered within a relatively small size market population, thereby additionally causing high food prices.

Added to the prices of food and non-food items the territorial consumer must pay are the costs associated with the structural factors of an island market. These factors include increased cost of distribution, increased spoilage and/or energy costs due to heat and humidity, and, traditionally, a limited functional operating infrastructure (i.e. roadways, rail, air and sea systems, power, and communication).

The U.S. Virgin Islands have a small group of supermarkets which, for all intents and purposes, represents an oligopoly. The degree of management of pricing by this supermarket oligopoly may or may not be a factor in the Territory.

The costs of labor have a direct relationship to a food store's productivity. Labor rates in the U.S. Virgin Islands, based on a territorial minimum wage of $4.25 as opposed to the federal minimum wage of $3.35, are relatively high. In 1987 labor represented 45 percent of the nation's food cost index. The U.S. Virgin Islands' food industry should be experiencing at least an equal, if not greater, cost contribution compared to the national average of labor to food shelf prices.

4. REVIEW OF THE LITERATURE

The quantity of existing literature on the subject of food prices in the USVI is not ample. Some literature on the regional scene, worthy of note, is evident. A considerable quantity of literature on the subject comes from the United States mainland. Basic to the study of food prices is the VI legislation governing the pricing of goods and services in the USVI. Chapter 2, of the VI Consumer Protection Law of 1973, Section 101, discusses "unfair trade practices". Under Section 102 (c), goods and services are defined to mean foods "... which are primarily for personal, household or family needs". In Chapter 17, Section 1012, "Setting prices and quantities for sale", notes that the "Consumer Services Association (CSA) may determine the prices of quantities at which all or any article of food and general supplies may be sold by wholesales, retailers, producers...". A reasonable margin of profit is allowed and a wholesale and retail price are permitted to be set for each item.

In the context of these CSA guidelines, prices in the USVI will possibly be perceived to fall under the purview of the Consumer Services Association. However, any study of food prices should consider the results of a market basket analysis and the implicit inflation factor attendant to a market basket analysis.

In this regard, the studies of the American Chamber of Commerce Research Association (ACCRA) Cost of Living Index provide a basis for understanding some questions of cost in the context of the USVI. While the present study is not limited to a cost of living component exclusively, the ACCRA methodology is a useful point of departure.

In an island-specific case, Huntley Manhertz's (1977) "The Price Determination Process in a Small Open Economy--The Jamaican Experience" is a seminal article vis-à-vis specificity of food price determination in economies such as the open economy of the USVI. The article "has as its main focus, the examination and explanation of the movements of retail or consumer prices in Jamaica. By necessity, some explanation is included of those economic factors which influence the overall behavior of domestic prices at the different levels of major economic activity (production, distribution and consumption)" (Manhertz, 1977, p. 1).

Other works which consider food prices are by Hines (1973), Gordon (1961), Lanzioletti (1958), and Afriat (1972). Hines considered "Income Prices and Productivity in Jamaica." Gordon looked at "Different Changes in Prices of Consumer and Industrial Goods." Lanzioletti investigated the "Pricing Objectives in Large Companies" of the American mainland, while Afrait made an "International Comparison of Prices and Output."

In a recent study, Stahl (1989) discusses oligopolistic pricing with sequential consumer search. Focus was on a number of stores' choice of prices for a homogeneous good with constant marginal cost. Consumers were expected to search each store, sequentially, with perfect recall. As the consumers search for the best price, the pricing of goods is expected to move from marginal cost pricing to monopoly cost pricing. This consumer search theory is apropos to this USVI study of food prices. Most of the consumer search models of food pricing center on finite stores and do not consider sequential search. The models assume that the consumer is either fully informed or fully ignorant about food prices. (See, for example,

Braverman, 1980; Varian, 1980; Salop and Stiglitz, 1977; and Stiglitz, 1979). There are a number of variations on the theme under the rubric of what is called the "Nash Equilibrium" for pricing-setting (Diamond, 1971). Overall, the literature of food prices is spotty, but rich. Many of the studies focus on pricing norms which may not be in accordance with the norms of island economies.

Food prices in the Caribbean, and specifically the USVI, must be considered in the context of not only the level of prices, but also the structure of the economy, its predictability in maintaining level prices, and administrative policing efforts to regulate prices in a market economy. Structure refers to the relative level of prices for different foods which may be substitutes or complements. Predictability is defined as an understanding of when prices will rise or fall given the nature of the local market as it interfaces with the international market.

5. METHODOLOGY

5.1 The Survey Design

This food price study was designed to survey and compare current food prices, relate those prices to selected off-islands areas, and to define the general characteristics, features, and services of food markets within the Territory. Further, an attempt was made to ascertain the specific food price-setting strategies employed by the food market industry in the U.S. Virgin Islands with respect to both formal price setting (strategic in nature) and operational price setting.

To these ends, a sample of retail food outlets was derived from the several groups in the Territory. Since Virgin Islands consumers spend the bulk of their food dollars in the largest retail food outlets, supermarkets in Miami, San Juan, Washington, D.C., and St. Maarten were selected for comparative purposes. Two questionnaires were developed. A detailed instrument was used territorially and a less comprehensive one used for off-island. Both included a selected list of food items--a market basket--to be used to record food prices.

The territorial questionnaire was completed by store managers. Selected resource personnel completed the off-island questionnaires. As a validation procedure, members of the team, on a date selected to reflect a normal pricing period, used the same market basket in a field survey of prices.

Focus group meetings were held on St. Thomas and St. Croix with executives of territorial food outlets and representatives of the three

major ocean carriers. Interviews were also held on a one-to-one basis and documents examined toward a better understanding of territorial warehousing and trucking.

5.1.1 The Market Basket

Supermarkets carry 10,000 to 40,000 different items based on type and size. The U.S. Department of Labor, Bureau of Labor Statistics, has a list of 76 items as a representative subset of these thousands of items. This list is employed in national, regional, and state-local studies. The market basket utilized in this food market study was derived initially from this list of representative food elements. Since no USVI consumption pattern data are available, the research team concluded that these food elements, also the basis for the food-group portion of Consumer Price Index Reports, were acceptable and reasonable as a foundation for the Virgin Islands food price study. The market basket was subsequently modified at the initial focus group meetings with food market personnel to reflect the 58 more commonly purchased food items locally.

Based on perceived consumption and demand patterns for the USVI, the initial list of food items for the market basket included three items, fresh kingfish, frozen kingfish, and potfish (food fish of the size that are commonly caught in fishtraps or fishpots). However, when the survey data were completed, these three items were not common as supermarket items and, therefore, were deleted from the market basket list.

The market basket does not take into consideration, for weighting purposes, the specific food product consumption volume in the Territory.

Included in the market basket were the following food groups with a total of 58 items:

- Cereals and bakery products (7 items);
- Meats (6 items);
- Ham and miscellaneous (7 items);
- Poultry (3 items);
- Fish (4 items);
- Eggs (1 item);
- Dairy (4 items);
- Fresh fruits (6 items);
- Fresh vegetables (9 items);
- Processed fruits and vegetables (4 items);
- Fats and oils (4 items);
- Other foods (1 item); and
- Beverages (2 items).

The individual items and unit weights are shown in Table 5-1. Wherever possible, national brands for these items were selected to permit more consistent and unbiased data and to facilitate easier comparison with the off-island price surveys. The selection of national brands increased the probability of locating the same items in each of the surveyed stores. Standard sizes, not necessarily at the lowest unit cost, were based on the general availability indicated by some focus group members. Although bulk-packaged or giant-sized items usually yield the lowest unit price, such sizes are not commonly available. For purposes of comparison, all statistics of the 58 food items were computed on a common base.

Table 5-1. List of Items and Unit Sizes included in the Market Basket

Item description	Unit size
CEREALS AND BAKERY	
Flour, Gold Medal	5 pound
Rice, long grain Uncle Ben's	10 pound
Bread, white, Holsum	16 ounce
Bread, whole wheat, Hearthside	16 ounce
Cookies, Chips Ahoy, Nabisco	16 ounce
Crackers, soda, Keebler export	26 ounce
Corn Flakes, Kelloggs	18 ounce
MEATS (USDA CHOICE FRESH)	
Chuck, ground (70%)	1 pound
Chuck roast	1 pound
Rib roast	1 pound
Sirloin steak	1 pound
Chuck steak	1 pound
T-bone steak	1 pound
HAM & MISCELLANEOUS	
Bacon, sliced, Oscar Mayer	1 pound
Pork Chops, end cut, frozen	1 pound
Ham, rump, smoked	1 pound
Ham, canned, Hormel	3 pound
Sausage, frozen link, Jones	1 pound
Frankfurters, chicken	1 pound
Bologna, Oscar Mayer	12 ounce
POULTRY GRADE A	
Chicken, whole, fresh	1 pound
Chicken legs, fresh	1 pound
Turkey, Butterball, frozen 12-14#	1 pound
FISH	
Chunk light tuna, Starkist water/oil	6.5 ounce
King fish, fresh	1 pound
King fish, frozen	1 pound
Pot fish, fresh	1 pound

continued

Table 5-1 (continued). List of Items and Unit Sizes Included in the Market Basket

Item description	Unit size
EGGS	
Grade A, large eggs	1 dozen
DAIRY	
Milk, fresh, St. Thomas Dairy	1 quart
Butter, Lurpak	8 ounce
Ice cream	1 gallon
Cheese, cheddar	16 ounce
FRESH FRUITS	
Apples, red delicious	1 pound
Bananas	1 pound
Oranges, navel	1 pound
Grapefruit	1 pound
Lemons	1 pound
Peaches	1 pound
FRESH VEGETABLES	
Potatoes, white	1 pound
Lettuce, iceberg	1 head
Tomatoes, field grown	1 pound
Beans, green	1 pound
Cabbage	1 pound
Carrots	1 pound
Celery	1 pkg
Onions, yellow	1 pound
Peppers, sweet	1 pound
PROCESSED FRUITS AND VEGETABLES	
Orange juice, frozen, Minute Maid	16 ounce
Tomatoes, canned, Goya	16 ounce
Peas, green, canned, Goya	16 ounce
Baby food, vegetable chicken, Gerber	1 small

continued

Table 5-1 (continued). List of Items and Unit Sizes Included in the Market Basket

Item description	Unit size
FATS AND OILS	
Margarine, tub	1 pound
Shortening	1 pound
Peanut butter	16 ounce
Vegetable oil, Wesson	2 quart
OTHER FOODS	
Sugar, white, Evercane	1 pound
BEVERAGES	
Coffee, roasted (instant Maxwell)	16 ounce
Cola, regular, cans (Coca Cola)	1 6-pack

5.1.2 On-Island Samples and Questionnaire

The on-island survey of food markets attempted to obtain information from six distinct food market types:

1) Supermarkets: large, self-service stores that carry a complete line of food products, i.e. meat, fish, produce, packaged food products, and dairy items, as well as some non-food products such as cosmetics and non-prescription drugs and have minimum annual sales of $2 million, according to the Food Marketing Institute.

2) Large super stores: offer a wide variety of products not traditionally found in the supermarket, such as prescription

drugs, clothing, or hardware goods. Annual sales are generally slightly less than $2 million.

3) No-frills stores: warehouses, bulk sales stores with limited product assortments. These may or may not handle fresh meats, produce, and other perishable products. Whereas most supermarkets carry 18,000 to 25,000 items, a warehouse store handles only 4,000 to 5,000 different products.

4) Neighborhood grocery stores: 'Mom & Pop' stores, typically small single proprietorships with a limited assortment of food and non-food items.

5) Convenience stores: generally chain stores (such as a 7-11 food store) which include food, non-food and other services (i.e. gasoline, laundry facilities, deli, etc.).

6) Specialty food stores: carry a narrow product mix with deep product lines. Such stores (produce store, bakery or fishery, etc.) sometimes obtain lower prices from suppliers because they buy limited lines of merchandise in large quantities.

A total of 26 food stores were selected by specific food store type as shown in Table 5-2:

Table 5-2. Food Price Study Questionnaire: USVI Sample

Food Store Type	Selection			Total
	St. Croix	St. Thomas	St. John	
Supermarkets	3	3	0	6
Large Stores	2	2	0	4
No-Frills Stores	2	2	0	4
Neighborhood Groceries	1	2	1	4
Convenience Stores	1	2	2	5
Specialty Food Stores	0	2	1	3
Total	9	13	4	26

An instrument was created to survey this sample of food markets and to include:

1) general background information;
2) pricing objectives (tactical and strategic);
3) the contribution of the various cost components in the derivation of the prices of food items.
4) a list of specific food items for which sales price and invoice cost data might be obtained.

The on-island survey was designed as a two part demographic questionnaire. Part 1 recorded store location, type, hours, ownership,

floor space, special customers services, pricing policies, the number of full and part-time employees, and their hours, wages and fringe benefits.

Financial data based on 1988 sales and expenses by departments was requested in Part 2. The cost of each item on the market list and its average quarterly dollar sales were also included in Part 2 as were the costs of pilferage, spoilage, outdated goods, bad checks and counterfeit bills.

Consultations were held with the store owners or representatives to insure full understanding of the data requirements, definitions of terms, and time frame within which the questionnaire should be completed. Assurances were made of the confidentiality of all information and its use only for aggregate statistical analysis.

This survey instrument (Appendix V-a) was presented in two focus-group sessions--one held on St. Croix and one on St. Thomas--to the sample of local food merchant owners and managers whose outlets were selected by a random process within each of the six groups. Only two retail food chains belong in the supermarket group in the islands and therefore both were included in the sample.

Minimal changes were made to specific line-items of the instrument during the focus group meetings to tailor the questions and issues to the unique aspects of an 'island' food-store industry.

An apparent lack of quarterly and annual financial data by departments within the surveyed stores made necessary a request for estimated percentages in this area.

Although many islanders purchase from street-side vendors that typically offer fresh vegetables, fruits, fish, and locally-produced beverages, the research team believed that no comparable, accurate data could be derived from these operations and they were not included in the survey sample.

From the original randomly-selected list of retail food outlets, response indicating a willingness to participate was received from seven. As a result the surveyed sample included two supermarkets, and one no-frills store in St. Croix and one supermarket, two speciality stores and one no-frills in St. Thomas.

5.1.3 Off-Island Samples and Questionnaire

This instrument was comprised of two areas:

1) A request for general background information; and
2) a list of specific food items for field price surveying.

The off-island survey of food markets (Appendix V-b) obtained information only from supermarkets since they tend to generate the largest sales volume within their market areas. Because of the 80-20 principle, consumption patterns in which 80 percent of the buying of foodstuffs occurs in about 20 percent of the retail outlets, supermarkets have been traditionally viewed as the basis for national food price and performance studies, including the U.S. Consumer Price Index.

Four off-island locations were included in this survey. These locations were selected since they offer unique features for comparative

purposes. San Juan, Puerto Rico, was selected because its geographic location is similar to that of the Virgin Islands, and it is frequently part of the line of flow of distribution of goods and services to the USVI. Miami, Florida is also located in the line of flow of distribution as one of the major shipping points for sea freight to the USVI. Because of its similar ethnic characteristics, Washington, D.C. was surveyed. St. Maarten, Netherlands Antilles, also an island in the Caribbean, was selected since it is affected by many of the same distribution factors as the Territory and has similar demographics.

Supermarket prices in the USVI and Washington, D.C., were surveyed in late August, San Juan and St. Maarten in early September, and Miami in November, 1989.

Since the surveys in the several areas were made in different months and the resulting data were not adjusted on any seasonal basis, monthly and/or quarterly variations in volume and prices (summer, winter, harvest, growing seasons) did not affect the calculations based on surveyed prices. The third quarter, July, August, and September, according to generally accepted consumption patterns in the United States, historically has the lowest sales. During this quarter all surveys were completed except for those in Miami.

The Thursday-through-Saturday schedule was chosen for the off-island survey since these three days show the highest shopping activity and the best--lowest--prices are often offered during this period. Holiday

weekends were specifically avoided since they typically produce unusual consumption patterns and pricing conditions.

Further, the items to be surveyed were determined to be much more commonly found in supermarkets rather than in convenience, neighborhood, and other non-supermarket retail outlets. Supermarkets also better reflect the price sensitivity and effects of competition and price trends, and more easily make the adjustments needed to meet changing market demands.

5.1.4 Field Surveys

Additionally, a field survey instrument (Appendix V-c) was developed as a validation document to obtain on-shelf prices of pre-selected food items.

For the field survey, specified store types were selected as shown in Table 5-3.

The same rationale used for the off-island surveys applied here with the selection of a Saturday for the recording of the on-shelf prices.

The field survey does not take into consideration, for weighting purposes, the sales volume from each store nor the consumption volume of selected food products within the respective store.

Table 5-3. Field Survey of USVI Food Markets

Food Store Type	Selection		Total
	St. Croix	St. Thomas	
Supermarkets	4	2	6
Large Stores	1	1	2
No-Frills Stores	1	1	2
Neighborhood Groceries	2	0	2
Convenience Stores	1	1	2
Specialty Food Stores	0	2	2
Total	9	7	16

5.1.5 Focus Groups

The study team was faced with several complex issues associated with the collection and interpretation of data on retail food prices and costs. Moreover, development of an approach to lead to an informed explanation of the reasons for price differences between the Virgin Islands and the geographical areas targeted for comparison was necessary. To help address these methodological problems, the team decided to utilize the expert contributions of a focus group to enhance the credibility of the research findings and interpretations.

Focus group studies are a commonly used market research technique, particularly useful in exploratory research. Focus group interviews bring

together six to ten people for a round-table discussion intended to explore issues, search for answers, generate ideas, or formulate hypotheses that can be tested using quantitative methods.

The focus group sessions were conducted by the team to elicit the opinions and motivations of selected food market and distribution personnel. The interviews were conducted, in general, to address the depth and breadth of fundamental food market issues in the Virgin Islands with a focus on three main purposes.

The first purpose was the collection of data to assist in the design and refinement of the food study questionnaire. The second was to gain a better understanding of the price/cost relationship in the industry. The third purpose was to determine from the collective opinion of the group, the major factors which, in their informed judgement, contribute to differences in price between the Virgin Islands and target off-island locations.

The team began with the basic proposition that differences in price are accounted for by differences in the costs of doing business, not only the costs of operations, but that element of profit which represents a return on the investment of shareholders and owners. Thus in order to explain price differences, clearly a first important and necessary step was to determine and isolate any significant differences in the cost of doing business in the Virgin Islands in comparison to the target locations.

To identify these differences, the informed opinion and judgement of experts and leaders in the retail food business was deemed useful. The

team reasoned that these significantly different elements of cost would form the basis for developing working hypotheses whose validity could be tested using quantitative methods. Extending the logic of this methodological approach, data would then be collected for the purpose of making cost comparisons for the cost categories identified. These cost comparisons, in turn, should indicate whether existing cost differences do in fact justify and explain significant differences in food prices between the Virgin Islands and the locations targeted for comparison.

In a meeting on June 6, 1989 the team met with Richard Lauth, USVI General Manager, Pueblo International, Inc., in an attempt to develop an in-depth understanding of the primary price/cost and operational considerations of supermarkets in the Virgin Islands; obtain necessary data elements for the construction of a questionnaire; and seek his support and participation in the food price study.

Mr. Lauth outlined the unique cost issues for Pueblo in operating its business in the Virgin Islands. Such unique cost items included freight (inland and overseas); gross receipts tax; excise tax; customs duties; the high cost of liability insurance; a substantial shrinkage factor (perishable items, damage resulting from shipping (dented cans, etc.), and theft (approximately 4 percent in the VI compared to 1.5 percent in Puerto Rico).

In addition, Mr. Lauth discussed other considerations pertinent to territorial food market operations: the purchase of most merchandise from three mainland distributors (Associated Grocers, Certified Grocers, and Malone & Hyde), costs of energy, maintenance of electrical equipment,

(generators, fuel charges, air conditioning, and power surges), general maintenance (such labor is 30 percent higher in the Territory than in Puerto Rico), supplies (shopping bags, cleaning materials, etc.), a traffic department staff to process documentation and prepare gross receipts and excise tax forms, the high costs of rent, losses from counterfeit checks and cash, long distance telephone charges for ordering inventory, and the depreciation/amortization of property, plant and fixtures (higher original cost and shorter life use value in the USVI as compared to the States).

Mr. Perez, District Manager, Grand Union Stores, was interviewed in July, 1989 to allow him to review the survey questionnaire; to permit the team to gain a further understanding of price/cost and operational issues of supermarkets in the Virgin Islands, and to seek his support and participation in the food study. At that time, Mr. Perez was very recently appointed by Grand Union to serve in the Territory.

Mr. Perez agreed that the questionnaire would capture the most significant line-items of his supermarket operation, but indicated that the questionnaire was so detailed that too much time was necessary to complete it. In addition, a lack of computerized inventory and invoice and sales tracking data for Grand Union would not permit any accurate historical information on the invoice cost and selling price of the market basket items. Mr. Perez also felt that if the Virgin Islands government wishes to request such information on a regular basis, advance notice is necessary so that plans for the collection, dissemination, and distribution of such data may be formulated.

In another focus group meeting held on Wednesday, July 19, 1989, in St. Thomas, the team met with representatives of three major ocean freight shippers (Appendix III) to gain an in-depth understanding of the economic, legal, and operational role of ocean freight shippers in the Territory, to ascertain the physical distribution flow of food products to the Virgin Islands, and to develop comparison of the distribution costs of trans-shipment through Puerto Rico as opposed to direct shipments to the Virgin Islands.

From this meeting the team learned that the Federal Maritime Administration (FMA) regulates domestic shipping (between Puerto Rico and the USVI or between the islands of the Territory). Rate fluctuations, however, respond to supply and demand as well as to what the market will bear. These rates are public information and are reviewed by the Inter-state Commerce Commission (ICC). Any changes must be filed with the ICC, usually with 30 or 60 days' notice.

The value of the commodity and the kind of container service required influences rates (i.e. frozen food containers are more expensive than dry goods). Approximately 70 percent of all foods are shipped from South Florida and about 20 percent from Puerto Rico--local Puerto Rican products and those trans-shipped. Containers generally return empty from the VI and, therefore, a 50 percent return cost is built into charges.

In general, shipping fees include a net ocean rate which may include rail shipment, handling (loading), landing (unloading), arbitrary (trucking, point-to-point); and documentation.

Two additional focus group meetings were held: one on St. Thomas on July 26, 1989 and one on St. Croix on July 27, 1989 with local food store owners/managers (Appendix III).

In St. Thomas, the team and focus group members reviewed the food study questionnaire for any revisions and/or additions and to solicit their support throughout the food study period. The initial discussion centered around the asking of questions about selected survey questionnaire line-items. Certain food items were eliminated since these items are not common to the Virgin Islands. The eliminated items were replaced by food items with high local demand.

In general, the attendees supported the objectives of the food study, but questions arose as to the political use of the results. Further, the time necessary to complete the questionnaire was deemed excessive. However, all focus group attendees agreed to support the food price study.

A final focus group meeting of food store owners/managers was held on St. Croix on November 27, 1989 to summarize and review preliminary findings of the study and to include any significant operational areas which were not addressed through the questionnaire, field study, and/or previous interviews. Only Pueblo International, Inc. (Appendix III) accepted the invitaiton to attend.

At this meeting, the same concerns relative to the high cost of doing business in the USVI as expressed at the earlier meeting with Mr. Lauth were repeated. Comparisons with Pueblo locations in Miami were emphasized

as was the impact on territorial prices of those issues specific to the Territory.

5.2 Methods of Data Analysis

5.2.1 Pricing Monitors and Controls

Pricing monitors and controls, apparently utilized by the national food industry, attempt to address operational performance of pricing policies as a set of checks and balances. The extent (as measured by quality and quantity) to which these monitors and controls are employed within a firm appears related to the level of price management sophistication of the respective business.

The following typical price monitor and control mechanisms were used to survey the U.S. Virgin Islands food market industry:

- Periodic review of *all* prices
- Periodic review of *select* items
- Check against local competition
- Check against regional/national food price studies

A consolidation of survey findings for the U.S. Virgin Islands food market price regulating mechanisms indicates a parallel to typical national trends.

Table 5-4. Pricing Monitors and Controls Employed - USVI

Regulating Mechanism	Composite	Super Mrkt.	No-Frills	Specialty
	Percent			
Periodic review of all prices	85.7	100.0	50.0	100.0
Periodic review of select prices	42.9	66.7	50.0	0.0
Check against local competition	57.1	100.0	50.0	0.0
Check against regional/ national price studies	14.3	33.3	0.0	0.0

Source: Food Study Survey of Retail Food Outlets, 1989

From the sample of seven participating retail food outlets, the larger food stores with greater resources seem to utilize more of the price regulating fields with a greater degree of sophistication. Such sophistication in the *check against local competition* as well as the *check against regional/national price studies* seems quite evident from the above data and results in a stronger market position.

5.2.2 Procedures and Calculations

In order to compare prices the 58 items on the survey list were separated into five categories: dairy, frozen food, grocery, meat, and produce. These categories were based on the facilities and physical arrangement of the stores. Therefore, for example, a frozen food category included frozen pork chops, sausage, turkey, ice cream, and concentrated

orange juice. These food groups are presented in Table 5-5, including items and unit weights.

When price data from retail food stores were collected and a particular national brand item in the specified size was not available, an alternative size of that national brand item was included. If the item in that national brand was not available in any size, an alternative brand, and possibly size, was surveyed. These differences were noted on the survey forms. In a few cases a food item was not available in any brand nor in any size. When that occurred, determination was made that average prices for other stores in that category would be calculated, and the calculated price used in the unit price and average calculations. Many of the items on the survey list were not available in non-supermarkets. In those cases, averaging was *not* done, and price comparisons were made *only* between available items in these outlets.

Table 5-5. Food Groups for Average and Index Calculations of Market Basket Items

Item description	Unit weight
DAIRY	
Grade A, large eggs	1 dozen
Milk, fresh, St. Thomas Dairy	1 quart
Butter, Lurpak	8 ounce
Cheese, cheddar	16 ounce
Margarine, tub	1 pound
FROZEN FOODS	
Pork Chops, end cut, frozen	1 pound
Sausage, frozen link, Jones	1 pound
Turkey, whole, Butterball, 12-14#	1 pound
Ice cream	0.5 gallon
Orange juice, frozen, Minute Maid	16 ounce
GROCERY	
Flour, Gold Medal	5 pound
Rice, long grain Uncle Ben's	10 pound
Bread, white, Holsum	16 ounce
Bread, whole wheat, Hearthside	16 ounce
Cookies, Chips Ahoy, Nabisco	16 ounce
Crackers, soda, Keebler, export	26 ounce
Corn flakes, Kelloggs	18 ounce
Chunk light tuna, Starkst water/oil	6.5 ounce
Tomatoes, sauce, Goya	16 ounce
Peas, green, canned, Goya	16 ounce
Baby food, vegetable chicken, Gerber	1 small
Shortening	3 pound
Peanut butter	18 ounce
Vegetable oil, Wesson	2 quart
Sugar, white, Evercane	1 pound
Coffee (instant Maxwell)	16 ounce
Cola, nondiet, cans (Coca Cola)	1 6-pack
MEAT	
Chuck, ground (70%)	1 pound
Chuck roast	1 pound

continued

Table 5-5 (continued). Food Groups for Average and Index Calculations of Market Basket Items

Item description	Unit weight
MEAT	
Rib roast	1 pound
Sirloin steak	1 pound
Chuck steak	1 pound
T-bone steak	1 pound
Bacon, sliced, Oscar Mayer	1 pound
Ham, rump, smoked	1 pound
Ham, canned, Hormel	3 pound
Frankfurters, chicken	1 pound
Bologna, Oscar Mayer	12 ounce
Chicken, whole, fresh	1 pound
Chicken legs, fresh	1 pound
PRODUCE	
Apples, red delicious	1 pound
Bananas	1 pound
Oranges, navel	1 pound
Grapefruit	1 pound
Lemons	1 pound
Peaches	1 pound
Potatoes, white	1 pound
Lettuce, iceberg	1 head
Tomatoes, field grown	1 pound
Cabbage	1 pound
Carrots	1 pound
Celery	1 pkg
Onions, yellow	1 pound
Peppers, sweet	1 pound

To obtain effective comparisons between prices of products in different sizes, a unit price calculation was made so that the price was representative of the specified size or quantity of that item.

Determining index values for comparisons between supermarket prices on and off-island required data collection, data entry, and calculations.

The shelf prices for various items--and in the case of a difference in size, the actual surveyed size or weight--was entered into a computer-based spreadsheet. For each item in each store, a unit price was calculated. An average unit price based on unit prices for stores in each area (USVI, San Juan, Miami, and Washington, D.C.) was then calculated for each item. This average unit was used to calculate a group or category average price. No weighting was done for the item prices or varying number of items in a food group.

After group averages were calculated, those averages were indexed to the USVI average. The USVI average was a simple (unweighted) average using unit prices from the supermarkets surveyed on St. Croix and St. Thomas. This index represents the price difference (percentage) when compared with the USVI average price for a food category. For example, if an average price in the USVI for a particular category was $1.80 and the Washington, D.C., price was 10 percent or 18 cents lower ($1.62), that index figure would be calculated as 0.90 indicating that the Washington, D.C., price was 90 percent (0.90) of the USVI average price.

For St. Maarten, N.A., the shelf prices in Dutch guilders were converted to US-dollar prices using the official conversion rate in effect on the day that the price survey was conducted in St. Maarten.

5.3 Limitations to the Study

Regrettably, in the search for complete and pertinent data for this study, the gathering of data met some obstacles which reduced the availability of some of the desired empirical information. Therefore

responses to the questions posed as the objectives of this study, are of necessity limited, particularly in the area of local cost analysis.

Including the multiple units of Pueblo and Grand Union, representatives of 26 food outlets were originally invited to participate in this study. Although about half expressed interest in participation, only four, plus representation for Pueblo territorially, attended the original focus group meeting on St. Thomas, only two on St. Croix. An additional meeting was arranged with Grand Union at a later date. This lack of response resulted in the final sample of seven.

Interest was expressed by retailers in St. John, but none sent a representative to the initial general focus group meeting and therefore did not participate.

Plans to use financial data in a definitive cost analysis were thwarted by the reluctance of the respondents to divulge the necessary figures. Only three of these completed and returned that section of the questionnaire.

Virgin Islands tax returns are not available for review, and invoices from suppliers are not written in a form which permitted the analysis anticipated. Local customs officials were extremely uncooperative in the attempt to corroborate shipping and tax information by the use of customs documentation.

Difficulties also arose in the surveys planned for Miami and Washington, D.C. Eleven major retail food chains were contacted by personal telephone calls and follow-up cover letters with the questionnaire

designed for their use enclosed. None responded positively. Subsequent limited information used in this study was gathered by university personnel located in these cities and contacted by team members. However, no financial information was made available.

Personal contacts by a team member were eventually utilized in St. Maarten and another team member personally gathered the data there.

These obstacles and the resultant delays, although frustrating, were not permitted to detract or deter the team from, on the whole, meeting its objectives.

6. EMPIRICAL FINDINGS

6.1 Outline of the Data

The market basket survey of food prices provided the most data for this study. But the shelf price of a particular food item in one store is raw data and provides very little, if any, empirical information. Only when prices in one locale are compared with corresponding prices in another locale do patterns emerge which permit conclusions. Thus, the individual food item shelf prices were adjusted for standard item size, averaged for stores in a particular area, and consolidated into food group averages for effective comparison. The food prices alone indicate only the amount of money a consumer pays for each food item; other information, methods, and measures must be used to determine the cost components and decisions that result in that shelf price.

6.2 Relationship Between Price and Cost

Typical for large food store operations in the United States is the 'regionalization' of pricing decisions. All the U.S. Virgin Islands supermarkets followed this pattern and set their pricing *territorially* as opposed to *store-by-store*. The implications of regionalized price setting are:

- chain store structured/orientated
- regional based planning
- high level of sophistication in price setting
- strong likelihood of employing industry market data
- senior management involvement in price setting

Only one out of three supermarkets made pricing decisions at the General Manager level here in the Virgin Islands, suggesting a 'higher order' of decision making, possibly at a group or regional vice-president level.

The no-frills and the specialty stores also followed traditional U.S. food store characteristics and trends in setting prices by employing a local or *store-by-store* posture. Three of the four stores (combining no-frills and specialty) set prices at the store level with the decision being made by the local Virgin Islands general or store manager.

The implications of localized price setting are:

- single store or closely-held ownership
- local-based planning
- low to moderate level of sophistication in price setting
- limited employment of industry market data

Another method in assessing the level of sophistication in price setting is the ability to, and degree of, responsiveness to cost changes of merchandise. Characteristically, larger stores, such as supermarkets, tend to respond to cost changes more readily and more completely with both on-hand and newly arrived inventories. The survey clearly bore this out since all three supermarkets changed prices on both on-hand and newly arrived inventory on the basis of the new invoice cost of the specific item(s). None of the no-frills or specialty stores made the 'wholesale' adjustment. In fact, three of the four no-frills or specialty stores only changed prices of new items when their new respective invoices showed price changes.

Operational or periodic pricing represents price adjustments based upon changes in the consumer market, operational cost changes, and/or cost fluctuations of merchandise to be sold. Typically, operational price adjustments are implemented to:

- match competitive price changes (going-rate)
- adjust to new invoice costs (cost plus)
- promote a product (advertising or floor specials)
- reduce inventory or stimulate slow-moving commodities
- respond to manufacturer/distributor requests/incentives
- adjustments based upon periodic operational cost increases (i.e., cost of electricity or cost of labor)

The significance of store size and/or type is of far less concern in periodic pricing. A broader perspective of store operations (i.e., combining all of the USVI stores together) is shown in Table 6-1.

Table 6-1. Operational Food Pricing Characteristics in the USVI

Types of Periodic Price Adjustments	Super Mrkt.	No-Frills	Specialty	Composite
	Percent			
Cost Plus	53.3	72.5	80.5	66.6
Promotion	18.7	19.0	15.0	18.0
Going Rate	11.7	17.5	0.0	17.0
Mnfg./Dist. Request	10.3	0.0	20.0	13.0
Inventory Change	0.0	5.0	0.0	5.0
Oper. Cost Changes	1.0	0.0	0.0	1.0

Clearly, the findings reflect a preponderance of focus upon cost management. As tradition would expect, *promotion* and *going rate* would follow. What seemed to be atypical was the relatively small percentages associated with *promotion* and *going rate* in relationship to *cost plus*. No definitive evidence exists to conclude much from this anomaly. However, previous research focused on U.S. industries exhibiting comparable minimal promotion and/or competitive pricing movements suggests a trend towards oligopoly tendencies.

As noted earlier (Chapter 3.2), price management, either discrete or overt, plays a significant role in oligopoly dynamics. Therefore, one might deduce that a possible lack of competitive pressure within an oligopoly regime would coincide with a relatively small percentage of price movements actually determined by *promotion* and/or *going rate* market factors. With the very limited number of dominant retail food markets within the U.S. Virgin Islands, to consider and/or classify the local food market as being oligopolistic is not an error.

6.3 Prices of Market Basket Items

After a unit price was calculated from the shelf price in the supermarket of each market basket item surveyed, the average shelf or unit price was calculated. Tables 6-2a, 6-2b, 6-2c, 6-2d, and 6-2e, show these average unit prices by food groups for supermarkets in the USVI and the selected off-island areas.

In addition, within each food group, the item with the greatest average price difference (using USVI average prices as a base) is indicated.

The overall averages show the most representative values to be compared between the surveyed areas, since the individual high and low prices tend to offset each other. These averages when compared to the USVI average provide an index value which represents the best indication of the average prices for the food items surveyed.

As an example, Table 6-2(c) shows peanut butter--a grocery item--with a unit size of 18 ounces. The average shelf price for the six supermarkets surveyed in the USVI (adjusted for the 18-ounce unit size) was $3.41. For the three supermarkets surveyed in Miami, the average shelf price (adjusted for the same unit size) was $1.86. Similarly in Table 6-2(e), for the three supermarkets surveyed in Washington, D.C., the average shelf price adjusted for the 1-pound unit size of sweet peppers was $0.71, while the USVI average shelf price for that unit size was $1.38.

The column headed "USVI/highest lowest" in the Tables 6-2(a-e) indicates the maximum difference between the USVI average price for an item and the non-USVI prices for that same item. This percentage is negative when the non-USVI price is lower than the USVI price. As an example, for grade A large eggs, Table 6-2(a), the San Juan price has the largest difference from that of the USVI price. The value of -20 indicates that the San Juan average price is 20 percent lower than the USVI average price.

Table 6-2(a). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
DAIRY PRODUCTS							PERCENT
Eggs, large, Grade A	1 dz	1.36	1.12	1.09	1.23	1.53	-20
Milk, fresh, St. Thomas Dairy	1 qt	0.90	0.79	0.78	0.74	2.06	129
Butter, Lurpak	8 oz	1.19	2.39	0.71	1.57	2.35	101
Cheese, cheddar	16 oz	4.25	2.39	4.29	3.45	3.36	-44
Margarine, tub	1 lb	2.02	1.39	0.96	1.61	1.12	-52
Group Average		1.94	1.62	1.57	1.72	2.08	-19
Indexed to USVI[7]		1.00	0.83	0.81	0.89	1.07	

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.
[2] Average prices from six USVI supermarkets surveyed in August, 1989.
[3] Two supermarkets in the Miami area were surveyed in November, 1989.
[4] Three supermarkets in the San Juan area were surveyed in September, 1989.
[5] Three supermarkets in the Washington, D.C. area were surveyed in August, 1989.
[6] One supermarket in St. Maarten was surveyed in September, 1989.
[7] The Miami, San Juan, and Washington, D.C. group averages were divided by the USVI group average to yield the index value. The one St. Maarten store total was divided by the USVI average to yield the index value.

Table 6-2(b). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
FROZEN FOODS							PERCENT
Pork Chops, end cut, frozen	1 lb	2.82	1.78	1.49	2.89	2.28	-47
Sausage, frozen, link, Jones	1 lb	3.92	2.92	3.94	2.78	3.92	-29
Turkey, butterball, frozen 12#-14#	1 lb	1.65	0.87	0.83	0.99	1.32	-50
Ice cream	1/2 gl	4.54	3.19	5.16	4.02	9.54	110
Orange juice, frozen, Minute Maid	16 oz	2.98	2.19	2.96	2.00	2.19	-33
Group Average - frozen foods		3.18	2.19	2.88	2.54	3.83	-31
Indexed to USVI[7]		1.00	0.69	0.90	0.80	1.20	

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.
[2] Average prices from six USVI supermarkets surveyed in August, 1989.
[3] Two supermarkets in the Miami area were surveyed in November, 1989.
[4] Three supermarkets in the San Juan area were surveyed in September, 1989.
[5] Three supermarkets in the Washington, D.C. area were surveyed in August, 1989.
[6] One supermarket in St. Maarten was surveyed in September, 1989.
[7] The Miami, San Juan, and Washington, D.C. group averages were divided by the USVI group average to yield the index value. The one St. Maarten store total was divided by the USVI average to yield the index value.

For milk prices, the largest difference in price occurs on St. Maarten where the price is 129 percent higher than the USVI price.

The grocery food group includes the largest number of items. Two of the three highest priced items included in the market basket, coffee and rice, are in this group. In the grocery food group, the difference from the average USVI price (1.26) was found in chunk light tuna, with a San Juan average price of $0.54, or 57 percent lower.

The meats food group (which did not include frozen meat) was comprised of items with consistently higher unit prices. Although the average prices of most meat items were not too far apart in the general surveyed areas, the largest difference was observed in fresh chicken legs, a very common meat item. The average price in Miami stores was $1.05 per pound, or 73 percent, lower than the USVI average price for this much-consumed food.

Wide variations existed in the average prices for the individual produce items, with little consistency within each area. For every area surveyed, except Miami, some produce item average prices were higher and others were lower than USVI average prices.

Comparisons were made only between USVI prices and prices in each other individual area. The off-island geographic areas were not compared to each other.

Table 6-2(c). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
GROCERY ITEMS							PERCENT
Flour, Gold Medal	5 lb	1.54	1.54	1.79	1.45	2.24	45
Rice, long grain, Uncle Ben's	10 lb	6.30	7.24	6.61	9.15	12.73	102
Bread, white, Holsum	16 oz	0.99	1.03	0.73	1.09	1.09	-26
Bread, whole wheat, Hearthside	16 oz	1.19	0.99	1.03	1.32	1.31	-17
Cookies, Chips Ahoy, Nabisco	16 oz	3.09	2.29	3.04	2.49	3.52	-26
Crackers, soda, Keebler export	26 oz	3.53	3.53	2.39	2.58	4.62	-32
Corn flakes, Kelloggs	18 oz	2.34	2.39	2.01	2.09	5.20	122
Chunk light tuna, Starkist, water/oil	6.5 oz	1.26	0.60	0.54	0.99	1.17	-57
Tomatoes, sauce, Goya	16 oz	0.77	0.45	0.53	0.71	0.98	-42
Peas, green, canned, Goya	16 oz	1.12	0.65	0.78	0.73	0.86	-42
Baby food, vegetable chicken, Gerber	1 sm	0.47	0.25	0.42	0.27	0.36	-47
Shortening	3 lb	4.46	2.79	3.42	2.21	3.13	-50
Peanut butter	18 oz	3.41	1.86	2.99	2.12	2.83	-45
Vegetable oil, Wesson	2 qt	5.55	3.14	3.01	3.63	6.40	-46
Sugar, white, Evercane	1 lb	0.82	0.41	0.48	0.42	0.45	-50

continued

Table 6-2(c). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups (cont'd)

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
GROCERY ITEMS							PERCENT
Coffee (inst Maxwell)	16 oz	18.02	10.36	0	16.01	14.52	-43
Cola, regular, cans (Coca Cola)	6 pk	1.69	2.11	1.76	1.52	2.44	44
Group Average		3.33	2.45	1.86	2.87	3.76	-44
Indexed to USVI[4]		1.00	0.74	0.56	0.86	1.13	

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.
[2] Average prices from six USVI supermarkets surveyed in August, 1989.
[3] Two supermarkets in the Miami area were surveyed in November, 1989.
[4] Three supermarkets in the San Juan area were surveyed in September, 1989.
[5] Three supermarkets in the Washington, D.C. area were surveyed in August, 1989.
[6] One supermarket in St. Maarten was surveyed in September, 1989.
[7] The Miami, San Juan, and Washington, D.C. group averages were divided by the USVI group average to yield the index value. The one St. Maarten store total was divided by the USVI average to yield the index value.

Table 6-2(d). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
MEATS							PERCENT
Chuck, ground (70%)	1 lb	1.87	1.72	1.49	1.76	0	-20
Chuck roast	1 lb	2.50	2.19	1.26	2.72	0	-50
Rib roast	1 lb	4.12	2.69	3.67	3.56	6.60	60
Sirloin steak	1 lb	4.99	3.99	4.36	3.29	6.93	39
Chuck steak	1 lb	2.17	1.78	1.62	2.62	0	-25
T-bone steak	1 lb	5.94	4.99	4.08	4.86	5.19	-31
Bacon, sliced, Oscar Mayer	1 lb	3.74	2.52	2.72	1.99	3.19	-47
Ham, rump, smoked	1 lb	3.16	1.49	0.95	1.42	0	-70
Ham, canned, Hormel	3 lb	12.09	8.03	8.46	9.53	6.33	-48
Frankfurters, chicken	1 lb	1.51	1.47	1.29	1.08	1.50	-28
Bologna, Oscar Mayer	12 oz	2.68	2.07	2.76	1.68	3.35	-37
Chicken, whole, fresh	1 lb	1.29	0.74	1.17	0.96	1.15	-43
Chicken, legs, fresh	1 lb	1.61	0.43	1.84	1.37	0.86	-73
Group Average - meats		3.67	2.62	2.74	2.83	3.90	-29
Indexed to USVI[4]		1.00	0.72	0.75	0.77	1.06	

continued

Table 6-2(d). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups (cont'd)

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.
[2] Average prices from six USVI supermarkets surveyed in August, 1989.
[3] Two supermarkets in the Miami area were surveyed in November, 1989.
[4] Three supermarkets in the San Juan area were surveyed in September, 1989.
[5] Three supermarkets in the Washington, D.C. area were surveyed in August, 1989.
[6] One supermarket in St. Maarten was surveyed in September, 1989.
[7] The Miami, San Juan, and Washington, D.C. group averages were divided by the USVI group average to yield the index value. The one St. Maarten store total was divided by the USVI average to yield the index value.

Table 6-2(e). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups

Item description	Unit[1]	USVI av.[2]	Miami av.[3]	San Juan av.[4]	D.C. av.[5]	St. Maarten[6]	USVI/highest lowest
PRODUCE							PERCENT
Apples, red delicious	1 lb	0.93	0.39	0.89	0.86	0.82	-58
Bananas	1 lb	0.57	0.30	0.39	0.50	0.50	-47
Oranges, navel	1 lb	0.82	0.73	2.02	1.13	3.45	321
Grapefruit	1 lb	1.24	0.33	0.95	0.73	0.42	-73
Lemons	1 lb	1.45	0.95	3.36	0.60	1.15	132
Peaches	1 lb	1.21	0.89	1.18	0.91	0	-26
Potatoes, white	1 lb	0.72	0.32	0.60	0.42	0.90	-56
Lettuce, iceberg	1 hd	1.36	0.84	1.35	0.85	1.35	-38
Tomatoes, field grown	1 lb	1.39	0.79	1.08	0.83	0.90	-43
Cabbage	1 lb	0.62	0.25	0.97	0.27	1.07	73
Carrots	1 lb	0.88	0.32	0.69	0.47	0.60	-64
Celery	1 pk	1.47	0.84	1.62	0.92	1.61	-43
Onions, yellow	1 lb	0.55	0.31	0.60	0.41	0.55	-44
Peppers, sweet	1 lb	1.38	0.64	1.05	0.71	1.14	-54
Group Average - produce		1.04	0.56	1.20	0.69	1.11	-46
Indexed to USVI[4]		1.00	0.54	1.50	0.66	1.07	-46
All items together							
Overall Average		2.67	1.90	1.97	2.16	2.90	-29
Indexed to USVI[4]		1.00	0.71	0.74	0.81	1.08	

continued

Table 6-2(e). Comparison of Supermarkets in the USVI and Selected Off-Island Stores by Food Groups (cont'd)

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.
[2] Average prices from six USVI supermarkets surveyed in August, 1989.
[3] Two supermarkets in the Miami area were surveyed in November, 1989.
[4] Three supermarkets in the San Juan area were surveyed in September, 1989.
[5] Three supermarkets in the Washington, D.C. area were surveyed in August, 1989.
[6] One supermarket in St. Maarten was surveyed in September, 1989.
[7] The Miami, San Juan, and Washington, D.C. group averages were divided by the USVI group average to yield the index value. The one St. Maarten store total was divided by the USVI average to yield the index value.

6.4 Food Prices Among Food Groups

For each of the five groups (dairy, frozen foods, grocery, meat, and produce) an unweighted average unit price was calculated. To illustrate, the average unit prices for the five dairy products in Washington, D.C. shown in Table 6-4(a) were added together ($1.23 + 0.74 + 1.57 + 3.45 + 1.61 = $8.70) and this total divided by 5 (the number of items) giving the group average of $1.72. In addition, an unweighted overall average unit price was calculated for all food items together.

Both the item average prices (prices of market basket items, 6.3) and group averages were calculated with more than eight decimal places of accuracy, but were rounded to two decimal places for printing. Thus a group average calculated from the item average values shown in Table 6-4(a) may differ slightly due to rounding.

To enable the accurate comparison of prices in the several geographic areas, a price index based on USVI unit price group average was calculated. Table 6-3 summarizes these group and overall averages and the corresponding index values. For instance, the St. Maarten meats group average, $3.90, was divided by the USVI meats group average, $3.67, giving an index value of 1.06. This index value indicates that the St. Maarten group average was 1.06 times the USVI average, or 6 percent greater.

Similarly, the Washington, D.C. meats group average ($2.83) yielded an index value of 0.77, based on the USVI meats group average of $3.67. Therefore, the Washington, D.C. meats average price is 77 percent of the USVI meats group average price.

Table 6-3 summarizes, for each area surveyed, all items in each of the five food groups averaged together, an unweighted average unit price and the price index based on the USVI average for that group. From this table the USVI-Miami differences are greatest, followed closely by USVI-Washington, DC, and USVI-San Juan differences.

Table 6-3. Comparison of Supermarkets USVI and Selected Off-Island Stores Group Averages

Group Average[1] Group Index	USVI[2]	Washington D.C.[3]	Miami[4]	San Juan[5]	St. Maarten[6]
Dairy Group Average	1.94	1.72	1.62	1.57	2.08
Indexed to USVI[7]	1.00	0.89	0.83	0.81	1.07
Frozen Group Average	3.18	2.54	2.19	2.88	3.83
Indexed to USVI[7]	1.00	0.80	0.69	0.90	1.20
Grocery Group Average	3.33	2.87	2.45	2.63	3.76
Indexed to USVI[7]	1.00	0.86	0.74	0.79	1.13
Meats Group Average	3.67	2.83	2.62	2.74	3.90
Indexed to USVI[7]	1.00	0.77	0.72	0.75	1.06
Produce Group Average	1.04	0.69	0.56	1.20	1.11
Indexed to USVI[7]	1.00	0.66	0.54	1.15	1.07
Overall Average	2.67	2.16	1.90	2.21	2.90
Indexed to USVI[7]	1.00	0.81	0.71	0.83	1.08

[1] Group averages for each food group were calculated using unweighted unit prices for surveyed stores in each location.

[2] Six supermarkets were surveyed in the USVI in August, 1989.

[3] Three supermarkets were surveyed in the Washington, D.C. area in August, 1989.

[4] Two supermarkets in the Miami area were surveyed in November, 1989.

[5] Three San Juan area supermarkets were surveyed in September, 1989.

[6] One supermarket in St. Maarten was surveyed in September, 1989.

[7] Each group average was divided by the USVI group average to yield the index value.

From an examination of the St. Maarten dairy group and produce group averages, the same index value, 1.07, results from two different averages ($2.08 and $1.11). Since the USVI group averages for these two groups were also different ($1.94 and $1.04), the results are correct.

With the USVI averages used as the base (divisor) for the index calculations, the USVI indexed values are all equal to 1.00.

This aggregate commodity price comparison reveals that USVI supermarkets were significantly higher than state-side supermarkets in all the food groups surveyed. As shown in Table 6-3, dairy group average was 11 percent higher in the USVI supermarkets than the highest price for this food group off-island (Washington, D.C.). In each of the other commodity food groups, the group average was consistently higher in the USVI: frozen foods (9.4 percent); groceries (13.8 percent); meats (22.9 percent); and produce (33.7 percent). Therefore, depending upon an individual consumer's purchases, prices are from 9.4 percent to 33.7 percent higher for selected food items than if purchased in the States.

From Table 6-3, food commodity prices in San Juan, Puerto Rico are substantially *lower* than in the USVI except in the produce group. Overall, USVI consumers pay 17.2 percent more than their Puerto Rican counterparts.

Food prices in the USVI, however were not the highest among the island supermarkets surveyed. St. Maarten was 8.6 percent higher in surveyed commodity food group aggregates than those of the USVI supermarkets.

The primary line of distribution of food to the USVI involves three major paths: direct shipping from both Miami and San Juan, or from Miami via San Juan, to the USVI. With transhipment via San Juan, the average prices might be expected to increase. However, food items from Miami to the USVI do not enter and then leave the San Juan market, but are only transhipped via San Juan. Therefore the prices of supermarket items in the primary line of distribution between Miami and the USVI are not affected by those in San Juan supermarkets.

Table 6-3 also highlights the primary line of food commodity distribution serving the U.S. Virgin Islands. The overall average of the aggregated five food groups for the USVI is substantially higher than either Miami or San Juan (28.8 percent and 17.2 percent, respectively). From another perspective: Miami, the point of origin, is 29 percent less expensive than the USVI; at the point of transhipment, San Juan is 17 percent less expensive than the USVI. Not all price differences can be equated to distribution factors but these relative prices reflect generally accepted views that the further the destination is from point of origin, the more costly the commodities to be purchased.

6.5 Ocean Freight and Inland Distribution

The compilation of ocean freight rate data on specific food items in the Virgin Islands presents a difficult task. These kinds of data do not exist on invoices and shipping documents. It was not possible to develop this specific freight rate analysis.

The impact of ocean freight charges on individual food products varies from item to item depending on the weight, size, and price of each food product. In reality, the nature of the food item determines its ocean freight charges and its subsequent retail price. The weight of food items does not, however, drastically affect different food items. But significantly higher ocean freight rates pertain to food items requiring controlled temperatures or refrigeration as opposed to items moving in dry non-refrigerated containers.

Other supplementary charges such as documentation, landing fees, and handling are also included in determining ocean freight rates. Documentation per shipment has an average cost of $35. Landing fees and handling charges vary by container size as indicated in Table 6-4.

Table 6-4. Landing Fees and Handling Charges

	Container Size		
	20′	40′	45′
Landing	$55	$100	$100
Handling	60	100	100

During the 1970's, a period in which the U.S. economy experienced rapid inflation freight, costs in the maritime industry also spiraled upwards and ocean freight rates followed this upward trend. At the same time the price of shipping goods by rail in the U.S. increased by 115.8

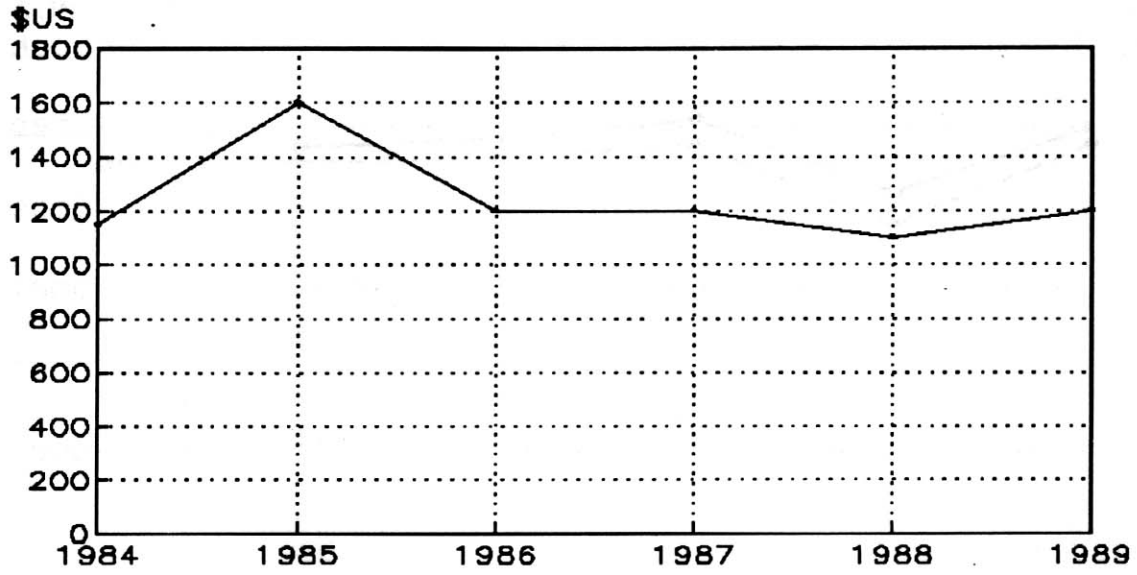
percent. In view of these inflation rates and the general price trends in that decade, the increases in ocean freight to the Virgin Islands were not, prima facie, excessive.

While ocean freight rate fluctuation responds not only to inflationary trends, supply and demand, and what the traffic will bear, carriers are not free to change rates at will. The Interstate Commerce Commission requires that a carrier file any planned rate increase 30 to 60 days before the effective date and since these planned changes are always public information, competitors are, in effect, notified well in advance. Plans to lower rates have more stringent time requirements. The Federal Maritime Commission which is responsible for shipping between Puerto Rico and the Virgin Islands administers the provisions of the Jones Act.

An attempt to record a two-year history of freight rates between South Florida and the Virgin Islands was a somewhat more difficult task, but with tedious research average rates as of June, 1988 and 1989 (Appendix VII) were derived.

Figures 3 and 4 indicate rate trends over the past five years for both refrigerated and dry groceries utilizing both 20-foot and 40-foot containers. Ocean freight rates between 1984 and 1987 were generally stable for dry and refrigerated groceries. However, unexpected competition caused freight rates to decline drastically in early 1988. A major shipper entered the market with direct shipment from South Florida in late 1987 and in early 1988 two key employees from Tropical Shipping formed their own freight shipping company.

Fig. 3: Dry Groceries Net Ocean Rates for (a) 20—foot Containers and (b) 40—foot Containers



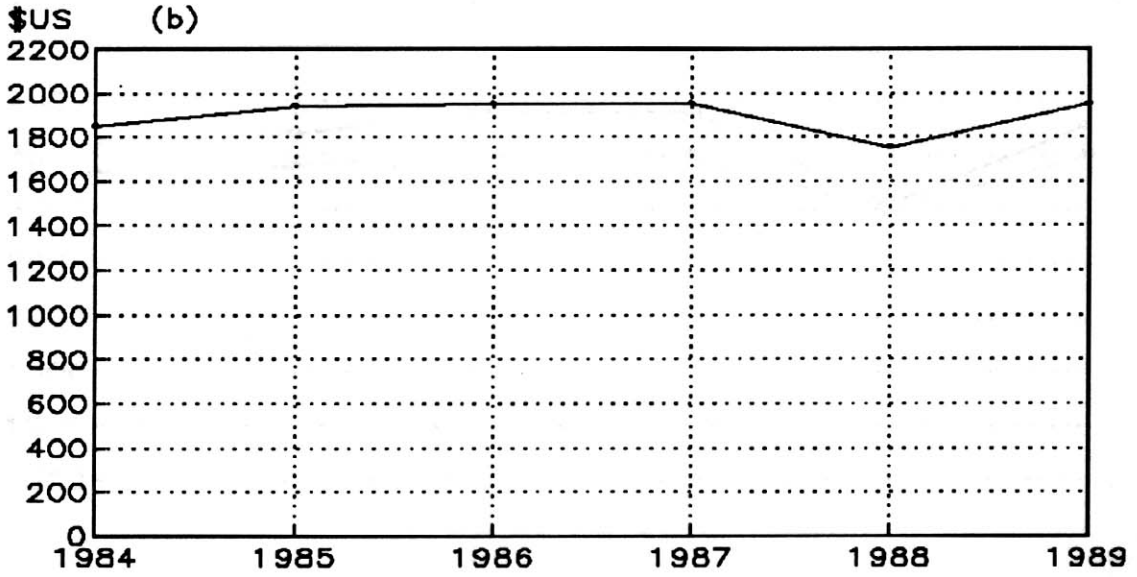
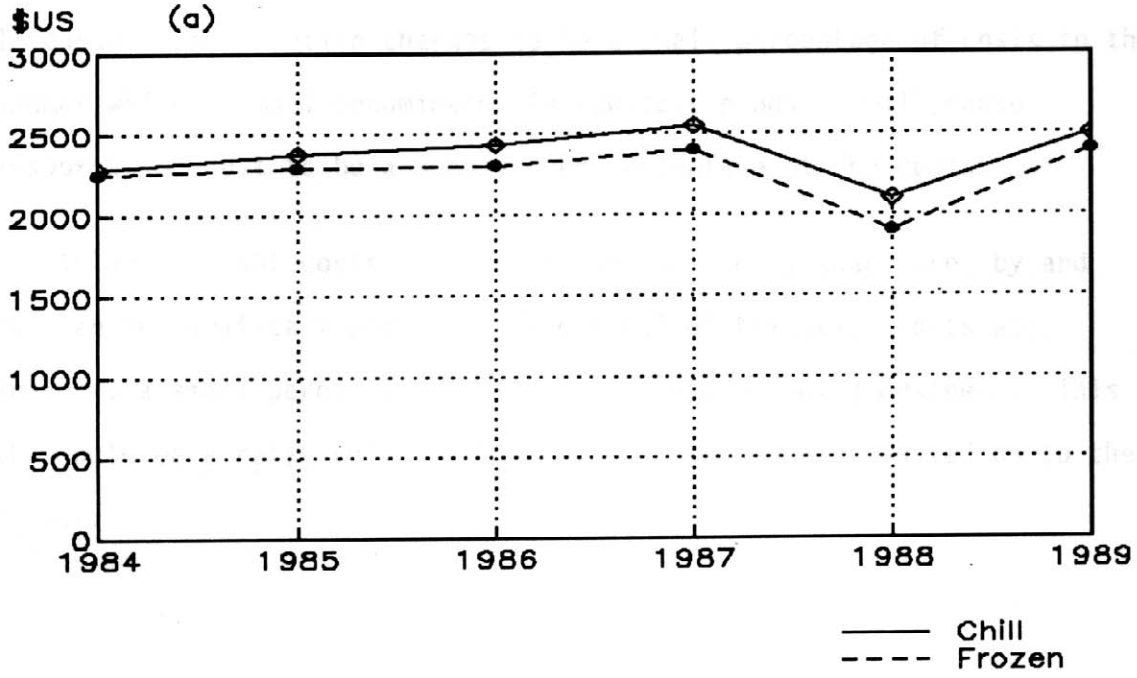
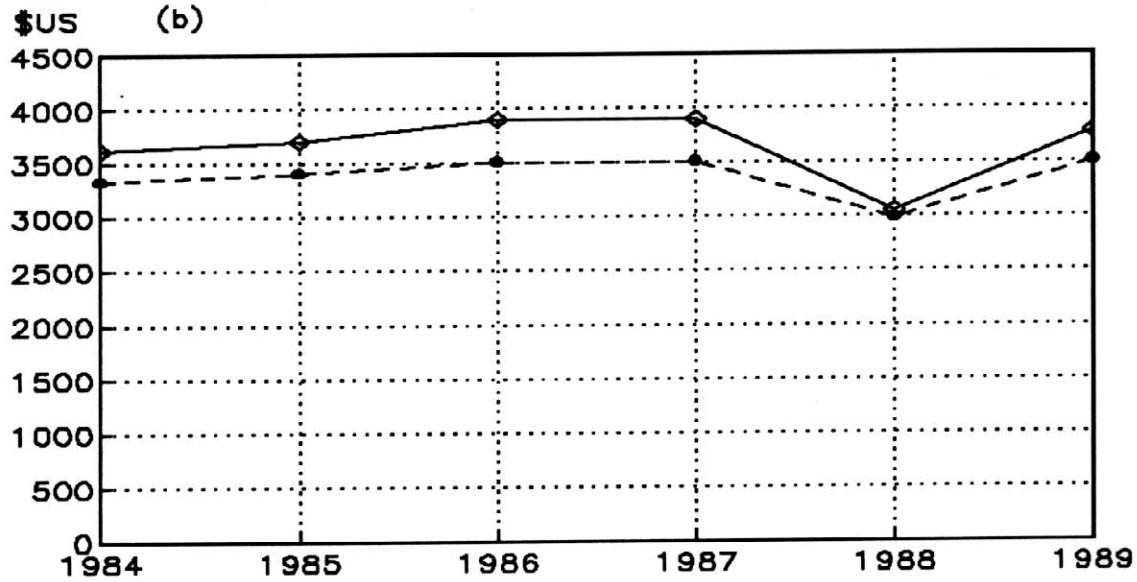


Fig. 4: Refrigerated Groceries Rates for (a) 20—foot Containers and (b) 40—foot Containers





A simple computation made by dividing transportation expenses by the cost of the food item permits a consideration of transportation charges as

a percent of price. If the numerator remains constant, a large denominator will cause transportation charges to be a small percentage of costs to the consumer while a small denominator (a low-cost product) will cause transportation cost to be a much higher percentage of the costs.

Inland freight costs, comparable on the two islands, are, by and large, an insignificant portion of the total distribution costs and, therefore, a small percentage of the total cost of doing business. This cost should be a relatively small portion of those costs passed on to the consumer.

7. EXPLANATION

7.1 Introduction

This chapter offers some explanations or answers in support of the four key questions explored to meet the objectives of this study: (a) the nature of the cost structure of the specific type and size of food retailers in the USVI; (b) the existing retail prices for selected food products; (c) the nature of the competitive structure in the retail food industry; and (d) the opinions and perceptions of selected food industry business leaders and other experts relative to the cost/price relations of food in the USVI. (see Chapter 2, Terms of Reference).

As core explanatory factors of the price level in the USVI, six points are worthy of consideration: (a) the market structure, (b) distance from sourcing point, (c) the "cost" of doing business in the USVI (d) structural characteristics, (e) social impediments, and (f) profitability.

7.2 Market Structure

In the early 1960's a large variety of smaller retail food outlets existed in the USVI and with factor costs (labor, rent, etc.) lower than today, the magnitude and variety of food outlets tended to permit a lower price system in the USVI. However, in the 1970's, as the USVI economy expanded and became more fully integrated with the market modes of the USA, the food industry consolidated and responded to consumer demand for more quality and more timely products. The industry's response to this consumer demand necessitated some cost increases which were then passed on to consumers in higher food prices. In a sense, therefore, the consolidation

of the food industry shifted the market structure from a more competitive system based on many food outlets, to a system and structure which today is oligopolistic.

An oligopolistic market structure is conventionally defined, as noted earlier, as an industry or market structure characterized by only a few firms selling either differentiated or undifferentiated products. In the USVI the food industry is dominated by two firms: Pueblo and Grand Union. To accurately determine their market share was not possible, but from observations, apparently these two supermarkets implicitly set the explicit prices that the other food outlets follow or adopt. While this determination of market share is not scientific, Labor Market Review (July, 1989: 5), notes that among the top 200 largest private employers in the USVI, Pueblo was ranked number 5 and Grand Union was ranked number 17. Plaza Extra Supermarket was ranked number 53 and Sunshine and Prime Foods were both ranked 62. Employment need not connote market share, but it does give some indication in an industry such as the labor-intensive food industry.

Absolutely no evidence of collusion was found. Nor did any business leader admit to price setting or to even recognizing the price setting of their competitors. But, in an indirect way, they all follow the perceived leaders and react when expediency so dictates in the setting of food prices. For example, if store A has a sale on item A on Wednesday, invariably store B will have a sale on the same item or some named item of a similar or closely related brand.

A few characteristics of the food industry such as large quantity purchase, mutual dependence, price-rigidity, and nonprice competition in the USVI permit us to characterize the market as oligopolistic. The two dominant firms benefit from their ability to purchase goods in large quantities. Theoretically, the lower the unit cost of items, the lower the expected retail price. But some constraints do not permit this straightforward line between lower unit cost and price.

Some level of mutual dependence exists between the two major supermarkets and the other food outlets in the USVI. The situation in price setting is akin to a game of chess. The leader or the person to make the first move sets a price (makes a move) based on the possible reaction of the opponent (competitor).

Price rigidity and nonprice competition is observable from the marginal differences in prices from one store to another. This marginal insignificance was most evident among the larger supermarkets. What was noticeable was the level of nonprice competition such as advertising and customer service. Within recent weeks, store coupons have begun to play a central part in attracting a volume of persons to both supermarket chain stores on certain days. These nonprice strategies are designed to retain, and to expand, market share.

In sum, the market structure in the USVI today is an oligopolistic structure. On St. Thomas, Pueblo and Grand Union dominate the system, while all of the others appear to fall into the "follower" category. On St. Croix, Pueblo and Grand Union also dominate, but here Plaza Extra and Sunshine combined were seen as a distinct alternative to the two giants.

Hurricane Hugo has caused changes in the retail food structure, particularly on St. Croix where a number of outlets, large and small, have been closed. Given the capital structure of Pueblo and Grand Union, Plaza Extra and Sunshine were not in the same competitive league. Prices are still implicitly set based on what Pueblo and Grand Union do, even though the proprietors of Plaza and Sunshine insisted that they do not consider competitors' prices when they set prices. They do not consider prices explicitly, but advertising is an implicit, nonprice mechanism of price setting.

Paradoxically, while a consolidation in the food industry has developed, an explosion of food outlets of specialities and convenience stores has also occurred. The pricing structure of these outlets suggests that with an increased number there should be a greater degree of competition. But here a paradox emerges. These stores are too small to impact on the volume of the large stores. Furthermore, purchasing at a speciality or convenience store has its price. Consumers pay more for the named brand, the exclusive product, the time of day, and the convenience of the location.

7.3 Distance From Sourcing Point

From Figure 2, Average Food Group Prices in USVI and Four Off-Island Locations, the picture of the importance of sourcing to price is graphic. For this comparison, supermarkets comparable to Pueblo, Grand Union, Plaza Extra and Sunshine were selected. The implicit question asked was: If a food industry operates in a given locale with certain characteristics, do differences in prices for named items occur and if so, why?

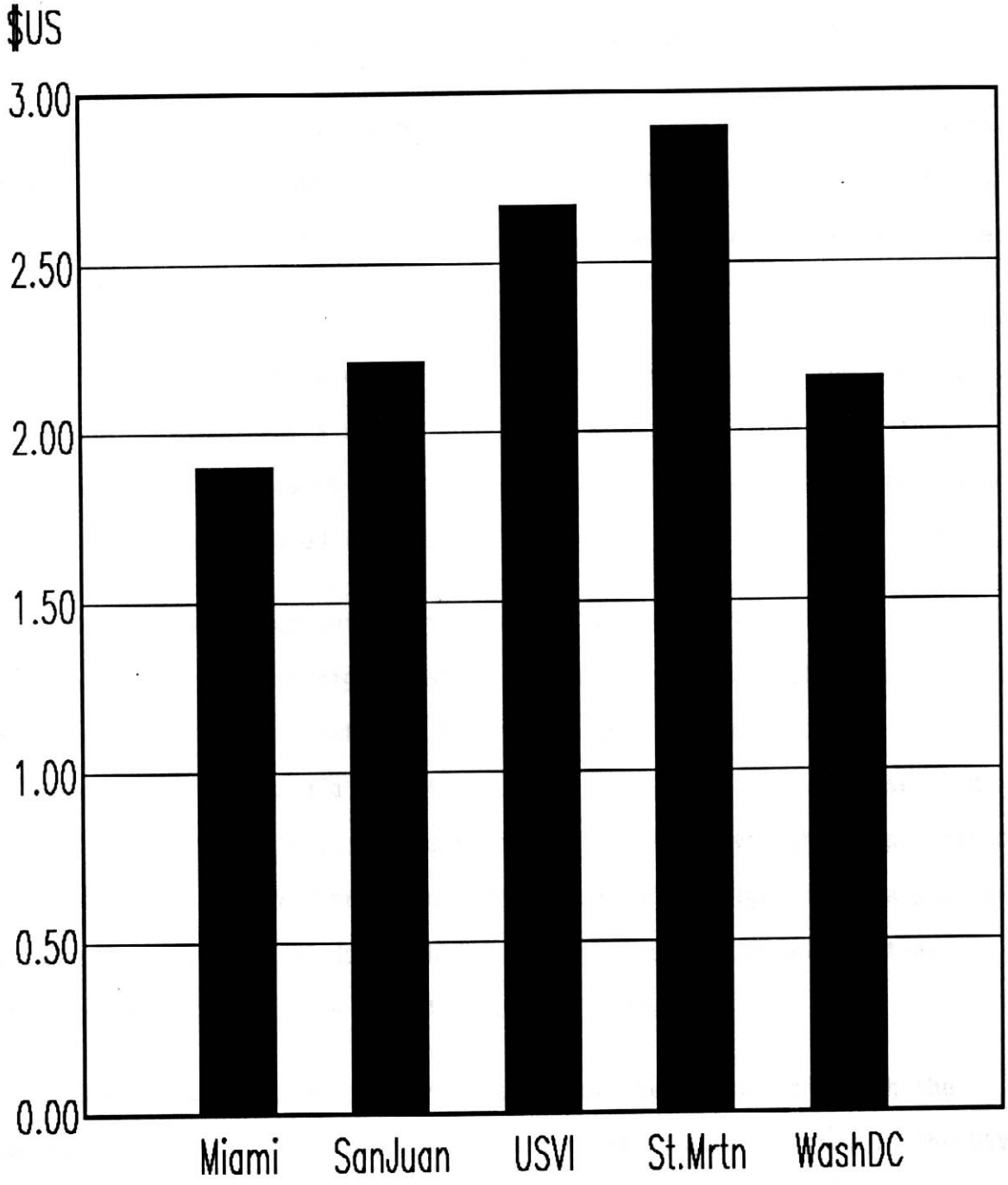
A partial answer is evident from Figure 2. Miami, which is the principal immediate source for much of the food in the USVI, San Juan, and St. Maarten, has the lowest levels of food prices. The graph indicates that a basket of goods which costs $70.99 in Miami will cost $83.00 in San Juan; $100.00 in the USVI; and $107.99 in St. Maarten. In Washington, D.C. the same basket would cost $81.00.

In the USVI, San Juan, and St. Maarten, the key to the differential in prices appears to be the shipment of food to these locations.

Central to this need for overseas shipment is the return leg of the barges and trailers. Barges and trailers come to the USVI filled with goods. They return empty, for the most part, to their source. The entry to the USVI is cost-effective; the exit, costly. At least some of the cost for these non-useful out-bound trailers and barges are passed on to the businesses and subsequently to the consumers in higher prices.

The question of sourcing is applicable to all supermarkets. But some of the supermarkets mitigate this cost impact by having their own warehouses--for example--Pueblo in Puerto Rico. Also, some engage in forward buying as opposed to spot buying. Forward buying occurs when a merchant orders, and pays, for merchandise at current prices for future delivery, sometimes as much as several months later, in anticipation of rising prices. Plaza Extra manager/owner informed us in the focus group interview that he tries to do as much forward buying as his capital will allow; in turn he passes on to the consumers the resulting savings. Local businesses are evidently not always able to utilize long-term forward

Fig. 2: Average Food Group Prices in USVI and Four Off-Island Locations



buying options. Location in mainland USA might permit such options with fewer impediments.

7.4 The "Cost" of Doing Business in the USVI

All businesses have normal costs of doing business in a given locale. Highlighted here are those which are above and beyond the "normal" costs or the added elements that businesses experience when they opt to do business in the USVI.

These explanations result from observation, analysis and synthesis. Observations come from a review and assessment by the team of business operations in the locales compared to the USVI. Tangentially, the distance from source was included in this review and assessment.

Much of the food which enters the USVI food markets has to be refrigerated. Ocean freight costs are significantly affected by the costs associated with refrigeration. Foods transported in controlled refrigerated units have a significant cost differential from those food items transported in dry, non-refrigerated units. Given the propensity of the people of the USVI for commodities requiring refrigeration, a premium is added to the cost of doing business in the USVI, a premium not as readily found to the same extent in other locales.

The following synthesis is a result of the discussions with the business leaders and focus group members of the foods industry in the USVI and of Pueblo in Miami.

Collectively, the business leaders believe that the gross receipts tax, the excise tax on some types of food items, the USVI local minimum wage which has been higher than the federal minimum of the USA, and the preponderance of paperwork needed for U.S. customs and local government regulations have forced businesses to employ more labor services than would be necessary to operate if in the USA or Puerto Rico. These added expenses have forced merchants to meet such local cost additions by passing some of the added cost burden on to the consumers. The discussions further indicated that these cost differentials are not so often encountered in other locales. For example, no taxes at any level apply to retail market food sales in other jurisdictions.

7.5 Structural Characteristics

Certain structural characteristics of the USVI economy and attendant features must also be accommodated such as the frequency of interruption of basic infrastructural services, in particular, electricity and telephone services. The frequent interruptions, brown-outs, low voltages, and so on, and the inadequate or disrupted telephone services (all pr[illegible]lugo) have all added to costs. Businesses are forced to do large volumes of business via telephone. This mode of doing business adds to the normal costs of the firms; to accommodate some of their costs, the business leaders agreed (in meetings with members of the team) that they must pass some of the increased costs on to the consumers in terms of higher prices, if they are to maintain a reasonable level of profits--a level which the team was told was "low," but which could not be demonstrated conclusively.

The business leaders concurred that, while they do not pass on all of these additional costs to their customers, the structural rigidities and inadequacies of doing business in the USVI force them to constantly reappraise their cost positions and, in turn, their pricing position. This reappraisal is independent of the accommodation of pricing changes that occur when retail food market sources change prices.

One of the main issues discussed was the need for stand-by generators. Condensers burn out more than is the norm in the food industry. In fact, one focus group member said stand-by generators are not needed in the USA since the local power authority is more reliable than in the USVI. Therefore, abnormally high levels of spoilage of foods from unreliable power sources add a significant factor to the costs of foods.

Some of the merchants felt too that local technical help is not always available to repair generators or fix condensers. The importation of skilled personnel, normally at premium prices, is thus required. This expense also increases the cost of doing business, and, in turn, these added costs are reflected in food prices.

7.6 Social Impediments

In the category of social impediments, one factor-- namely, theft-- sometimes called shrinkage or pilferage, was often mentioned. Universally, the business leaders attribute an increase above the ordinary cost of doing business in the USVI of about four to six percent from the effects of people misusing privileges of trust when they enter or work in retail food markets.

The view persists among some that many persons "open tins of food (peanuts, for example), sample items (like fruits, biscuits, for example), and then replace the items on the shelves". Since these items are no longer saleable under normal considerations, this is a cost to the business and ultimately to the consumer. No business executive openly accused any employees of stealing. Moreover, no hard evidence was obtained to indicate that pilferage was higher in the USVI than elsewhere.

7.7 Profit Margin

Net profit, in retail food outlets in the USVI, because of the varied factors inherent in its calculation, cannot be stated as a 'given'. The inability of the team to require a submission of financial records handicapped the team in its efforts to analyze costs. Only these financial records which include internal documents such as invoice records, product pricing records, and cost allocation procedures would enable a determination of the extent, if any, of price gouging. Those records were not publicly available. These limitations imposed on this study by the unavailability of empirical data do not permit a conclusive analysis by the team of true 'net profit'.

However, management of the chain supermarkets in the Territory both referred to the one-percent net profit used as a national norm on a semi-annual basis by the National Grocers Association for the goal of the bottom line for a successful operation. Since neither chain appears to be leaving the Territory, nor to be permanently closing any of their outlets, the assumption may be safely made that, at the very least, this goal is attained.

These six explanatory factors, namely, market structure, distance from sourcing, "cost" of doing business in the USVI, structural characteristics of the USVI economy, social impediments in the economy, and profit margin, must all be weighed to arrive at some conclusion about the significantly higher price levels in the USVI as compared to economic locales similarly circumstanced.

7.8 Summary

The U.S. Virgin Islands food price study team has surveyed, for comparison, current food prices, general characteristics, features, and services of food markets within the Territory, as well as related those prices to selected off-island areas. This comparative survey permitted a broad perspective on food prices in the USVI as stacked up against food prices elsewhere. Recognition of the common 'rumor' that prices are higher in the USVI than other American jurisdictions must also include the knowledge that much of the 'rumor' about high food prices is non-scientific. Application of empirical tests puts this perception in proper perspective.

Food market pricing has been determined to be a function of a series of inter-related factors: *Product Cost* (invoice prices); *Promotion Fees* (advertising, display and discount promotion); *Place/Distribution Costs* (sea, air, and land transport, wholesale brokerage fees); *Politics* (local and national legislative taxes, fees, duties and tariffs); *Positioning* (market/competitive forces); *Performance* (operational cost, property, plant and equipment, labor, utilities); and *Profitability* (as determined by product group/department and/or store total operational objectives).

Product cost is dependent upon: 1) seasonality patterns; 2) regional demand/supply availability and; 3) economic order quantity. The most critical components of the aforementioned factors are the *regional demand* and the *economic order quantity*. The limited market size of the U.S. Virgin Islands with its relative lower demand for products necessitates less efficient economic order quantity and supply-side price discounting. The net result is a higher invoice price paid for certain products.

Promotion Fees appear to approximate traditional fees allocated to these activities on the Mainland. To some extent, the lack of extensive competitive pressures amongst the larger food markets within the Virgin Islands has heretofore enabled these stores to avoid the costly 'coupon wars', common among mainland stores. These tend to substantially increase the overall annual promotional budgets.

Place/Distribution Fees may very well be the most costly factor in the base cost of Virgin Islands food products in the USVI. Transportation and brokerage fees are a common fact of doing business for the U.S. food market industry but the U.S. Virgin Islands faces the additional cost of premium sea and air transportation fees.

Politics as defined here certainly contribute to the overall cost of the Virgin Islands market basket.

Positioning appears less a competitive factor here in the limited competitive environment of the Islands. A key measure of store positioning is the extent to which the local/regional industry places emphasis upon

advertising and competitive price comparisons. Such positioning may not be a major factor in the cost of local food store operations.

Performance of each store is unique to that store and to derive any overall judgement of their combined/aggregate impact on food prices within the Virgin Islands is difficult. However, property costs, utility fees and labor are clearly quite high in the VI, relative to most mainland store operations. These higher costs are, of course, passed on to the consumer in higher food prices.

Profitability, whether determined at the food group/department level or the store-wide level, is a function of owner policies, programs and procedures, and, as such, cannot be combined to reflect an overall aggregate position.

There are various price determining factors that are influenced by selected stakeholder groups and, in some instances, by the stores themselves. The Virgin Islands government and the Federal government influence the *place/distribution* and the *politics* cost structure of the store operations. The suppliers and brokers influence the *product cost*, *place/distribution* and, to some extent, *promotion* cost structure of the food stores. The stores, themselves, have the greatest influence on *promotion*, *positioning*, *performance*, and *profitability*.

8. CONCLUSIONS

When the local food market is compared to four other areas with characteristics similar to the USVI, the local market tends to have generally higher prices. The reasons for these higher prices are embedded in the nature of the USVI food industry itself, as revealed by this study.

The information gathered by the study team from existing literature and studies, discussions with focus groups, personal experiences and perspectives, and surveys through questionnaires and in the field, leads to the following conclusions:

1. Overall, prices of food are 17 percent to 29 percent higher in the USVI than in Puerto Rico or on the mainland.

2. Frozen items, reflecting both higher freight and carrying costs, have higher price differentials than non-frozen items.

3. Differences in the prices of items sold locally are in part attributable to the differences in pricing policies of the various food outlets.

4. The greater the distance from the sourcing point, the greater the difference in prices.

5. The competitive structure of the retail food in the USVI is best described as an oligopoly which means that the industry is dominated by two major chain retailers whose pricing policies usually set the standard for, and are apt to have, a measurable impact on smaller competitors.

6. It is the consensus of food industry leaders and experts that the cost of doing business in the Virgin Islands is higher than elsewhere and that the prices of food items sold locally reflect the multiplicative impact of this reality. The applicable minimum wage, the local tax structure, the unreliability as well as the cost of infra-structural services, and the costs of shrinkage and spoilage are believed to be higher than elsewhere, and to add a level of business cost not encountered in other localities.

7. The local tax structure, with its gross receipts tax, automatically increases retail food prices by at least four percent, and if the items are purchased through a local wholesaler, a compounded rate of over eight percent.

8. Extraordinary transportation costs incurred by the demand of a consumer market geographically an island located 1500 miles from the mainland are reflected in the retail prices.

9. No definitive conclusion concerning profit is possible since the team encountered a lack of cooperation from customs officials, a confidentiality of tax reports, a reluctance of business leaders to divulge financial statistics and their insistence that they operate to meet the national norm of a one-percent net profit.

From these nine conclusions, the confirmation of higher food prices than in Puerto Rico and on the mainland is apparent. Observations,

analysis, and the intuition of the team suggest areas of concern, but without the necessary financial data, firm recommendations cannot be provided.

With such data the nature of the gross receipts tax and its impact on the retail price of food would allow an analysis which permits recommendations of the necessary measures for the food industry to produce and provide lower-cost food items in the local market.

Additionally, data resulting from a requirement that those retail food businesses with gross receipts of $150,000 or more per year report on a quarterly basis a list of no less than 50 products which generate the highest contribution to overall store sales in that quarter would be useful. Such a list would permit a more representative market basket for the Department of Licensing and Consumer Affairs for both local price surveys and the study of the movements and variations of prices.

Currently many firms claim to be "snowed under" by paper work. Resentment of both the paper work and the perceived bureaucracy is apparent, and the accuracy of records becomes doubtful. Here again, a lack of accessiblity to any records makes it difficult to state, with any level of certainty, the nature of these costs.

The team, therefore, recommends that legislation be drafted to permit cooperation between the Department of Licensing and Consumer Affairs and the Bureau of Internal Revenue so that a database may be created from gross receipts tax, excise tax and corporate income tax returns to permit firm conclusions without an increase in the perceived volume of paper work.

An assessment of the impact of a minimum wage higher than, and now in line with, the Federal minimum wage should have been possible. Data which measures the accuracy of the assumption that a lesser degree of productivity creates higher local labor costs would have added to a true cost analysis. Real costs of the existing infrastructure and its reputed unreliability, the implication of price "gouging" and/or price "setting", extraordinary shrinkage and the like, would also, with a greater availability of data, have permitted more definitive answers.

No definitive study can successfully answer the question of why food prices in the USVI are higher than in Puerto Rico and on the mainland without access to all of the financial data which would permit a rigorous study of cost anlaysis.

APPENDIX

Appendix I

ACT NO.5364

BILL 17 - 0104

SEVENTEENTH LEGISLATURE OF THE VIRGIN ISLANDS

OF THE UNITED STATES

Regular Session

1988

To provide for the Department of Licensing and Consumer Affairs to enter into a contract with the University of the Virgin Islands for a study concerning the high cost of food in the Virgin Islands and to appropriate $29,500 therefor

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WHEREAS the cost of food in the Virgin Islands is extremely high and has been consistently so for many years; and

WHEREAS Virgin Islands consumers are deserving of relief from the prevailing high cost of food in the territory; and

WHEREAS the economic well-being and nutritional needs of all Virgin Islands citizens are inevitably affected by the high cost of food in the territory; and

WHEREAS the University of the Virgin Islands is the only institution of higher learning in the Virgin Islands; and

WHEREAS the University of the Virgin Islands has the expertise and resources to undertake and conduct needed research projects; Now, Therefore,

BE IT ENACTED by the Legislature of the Virgin Islands:

SECTION 1. The Department of Licensing and Consumer Affairs is authorized and directed to enter into a contract with the University of the Virgin Islands for the implementation and conduct of a comprehensive and in depth study on the causes of high food prices in the Virgin Islands. The study shall be completed and submitted to the Legislature and the Governor not later than 120 days from the date of enactment of this bill.

SECTION 2. There is hereby appropriated to the Department of Licensing and Consumer Affairs from the General Fund of the Treasury of the Virgin

Islands, the sum of $29,500 for the fiscal year ending September 30, 1989, for the purpose of funding said study as set forth in Section 1.

Thus passed by the Legislature of the Virgin Islands on September 23, 1988.

Witness our Hands and the Seal of the Legislature of the Virgin Islands this 23rd Day of September, A.D., 1988.

IVER A. STRIDIRON
President

VIRDIN C. BROWN
Secretary

The above bill is hereby approved.

Witness my hand and the Seal of the Government of the Virgin Islands of the United States at Charlotte Amalie, St. Thomas, this 7th day of October, A.D. 1988.

Alexander A. Farrelly
Governor

Appendix II

Interviews with Government Officials

Name	Title	Agency
Louis Penn	Assistant Commissioner of Licensing and Consumer Affairs	Department of Licensing and Consumer Affairs
Alphonse Nibbs	Attorney	Department of Licensing and Consumer Affairs

Appendix III

Focus Group Participants

Ruth Austin, Assistant Director of Licensing, Licensing and Consumer Affairs, St. Croix

James B. Burmeister, Executive Vice President, Pueblo International

Dennis Coon, General Manager, Seven Eleven Stores, St. Thomas

W. Dolphin, Assistant Manager, A.Q. Supermarket, St. Thomas

Guy Edwards, Owner, Prime Seafoods, St. Thomas

Carol Francis, Sales Manager, Mavieras de Puerto Rico, St. Thomas

Edward A. Gallina, Director, Grocery Merchandising/ Procurement, Pueblo International

Marvin Goodman, Purchasing Manager, Quality Foods, St. Thomas

Steven Keats, Sales Manager, Tropical Shipping Co., Ltd., St. Thomas

Richard Lauth, General Manager, Pueblo, USVI

Ernesto Perez, District General Manager, Grand Union, USVI

Meme St. John, Sales Manager, Trailer Marine Transport Corp., St. Thomas

Eliot Silverman, Owner, Prime Foods, St. Thomas

Robert Silverman, Corporate Vice President, Distribution and Traffic, Pueblo International

Jewel Smith, Secretary/Bookkeeper, Merchants Market, St. Croix

Fathi Yusuf, Owner, Plaza Extra, St. Croix

Yahya Yusuf, Owner, Sunshine Supermarket, St. Croix

Appendix IV (a)

GOVERNMENT OF THE VIRGIN ISLANDS
OF THE
UNITED STATES

—o—

Office of the Commissioner

Department of Licensing and Consumer Affairs

July 17, 1989

Dear Store Manager:

Media and consumer attention has long focused on the high cost of food in the Virgin Islands. For a definitive explanation, and a better understanding of the factors underlying territorial food costs, the Government of the Virgin Islands has mandated that the Department of Licensing and Consumer Affairs consider the problem. In pursuit of this objective the Department has contracted with the Caribbean Research Institute of the University of the Virgin Islands to conduct a food cost survey. In order for this study and analysis to be accurate and relevant to local conditions your meaningful contribution is essential to the integrity of the findings.

Your supermarket has been selected to participate in the survey.

To facilitate your responses, a meeting will be held on Wednesday, July 26th at the office of the Department of Licensing and Consumer Affairs conference room at 9:30 A.M. This meeting is not anticipated to extend beyond two hours. Your presence is essential.

Our survey included a questionnaire in which you are asked for specific information concerning your distribution systems and costs, cost/price analysis on selected items, and food market industry comparisons.

We look forward to and appreciate your active participation in this process.

Sincerely,

Robert S. Mathes
Commissioner

RSM:om

Golden Rock Shopping Center, Christiansted, St. Croix, USVI 00820, (809) 773-2226, Telex 3470060 Att. D.L.C.A.
Property & Procurement Bldg., No. 1 Sub Base, Room 205, St. Thomas, USVI 00801, (809) 774-3130, Telex 3470060 Att. D.L.C.A.

Appendix IV (b)

UNIVERSITY of the VIRGIN ISLANDS

Caribbean Research Institute

August 22, 1989

Dear Store Manager:

The team of researchers, Caribbean Research Institute, University of the Virgin Islands, appreciate your cooperation to date with the food costs survey requested by the V.I. Legislature and the Department of Licensing & Consumer Affairs.

We are most grateful for your understanding and support of our endeavor and hopeful that you will continue to assist us.

At this time, to complete our data collection and our understanding of the intricacies of the costs and prices of goods sold in your retail outlet, we are requesting a copy of your 1988 business tax report, and for the same period, any financial statements compiled by your business for the surveyed store. All such documentation will be treated with the utmost confidence.

We would appreciate it if you would enclose a copy of this information with your assistance.

Yours faithfully,

Frank L. Mills, Ph.D.
Director

UNIVERSITY of the VIRGIN ISLANDS
Caribbean Research Institute

July 28, 1989

Dear _____:

The Caribbean Research Institute, University of the Virgin Islands, St. Thomas, Virgin Islands, is presently conducting for the government of the Virgin Islands a study of the factors underlying food costs in the territory. For a more accurate assessment, a comparison with data from a sample of mainland supermarkets is necessary.

Your supermarket has been selected to participate in this survey. Your selection in Miami of one of your stores for which data for the enclosed questionnaire will be reported is very much appreciated.

A copy of our questionnaire which asks for specific information concerning your distribution systems and costs as well as cost/price analysis on selected items is enclosed.

Questions regarding the completion of this form should be addressed to Dr. James Williams, University of the Virgin Islands, (809) 776-9200, ext. 1340-1341.

The completed questionnaire should be returned by Tuesday, August 15, 1989. A timely response will be helpful.

We look forward to, and appreciate your prompt cooperation with, and active participation in, this study.

Sincerely,

Frank L. Mills
Director

Appendix V (a)

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

The Caribbean Research Institute (CRI) is conducting a study to analyze factors that constitute differences in retail food prices in various market areas. Completion of this questionnaire will help to support the accuracy of the study. Your responses will be considered confidential and used with other questionnaire responses to generate study results.

Store Name_____Telephone Number_____
Respondent_____Title_____
Location_____City_____Zip_____
Date_____

Island:
- St. Thomas [ ]
- St. John [ ]
- St. Croix [ ]

Store Location:
- Stand Alone [ ]
- Shopping Center/Mall [ ]

Area:
- Inner City ☐
- Suburban ☐

Type of Store:
- Supermarket [ ]
- Combination food-drug or large super store [ ]
- No-frills (box or warehouse) [ ]
- Neighborhood Grocery [ ]
- Convenience [ ]
- Specialty [ ]

Store Hours:

	Time Open	Time Close
Monday	_____	_____
Tuesday	_____	_____
Wednesday	_____	_____
Thursday	_____	_____
Friday	_____	_____
Saturday	_____	_____
Sunday	_____	_____
Holidays	_____	_____

Store Ownership:
- Private [ ]
- Chain [ ]

Store Organization:
- Corporation [ ]
- Partnership [ ]
- Sole Proprietor [ ]

Size of store in terms of Total Gross Square Feet:
_____Sq. Ft.

Store Facility is:
- Rented (Annual Rent) [ ]$_____
- Leased (Annual Lease) [ ]$_____
- Owned (Annual Depreciation) [ ]$_____ Type of Depreciation_____

Special Customer Services (Check as many as applicable):

Product Price Marking	[ ]	Unit Pricing	[ ]	Service Deli	[ ]
Check Cashing	[ ]	Utility Bill Payments Serv.	[ ]	Service Meat	[ ]
Coupon Redemption	[ ]	Express Check-out Register	[ ]	Service Seafood	[ ]
Bagging Service	[ ]	Front-end Scanners	[ ]	Produce wrapped	[ ]
Plastic Bags	[ ]	Employee Uniforms	[ ]	Trading Stamps	[ ]
Paper Bags	[ ]	Contests or Games	[ ]	Continuity Prog	[ ]
Carryout Service	[ ]	Service Bakery	[ ]	Food Stamp Redemp	[ ]

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Please supply the following information with respect to the present pricing policies of the Company.

Pricing is:
Territorial [ ]
Store by Store [ ]

Pricing decision is made by:
General Manager (VI) [ ]
Store Manager [ ]
Other_____ [ ]

How do changes in cost of merchandise affect prices changes?
All item prices change upon arrival of new merchandise [ ]
All item prices change when new items are put on shelf [ ]
Only prices of new items are adjusted [ ]
Other(explain)_____

FORMAL PRICE SETTING (STRATEGIC)
Formal method(s) of food and nonfood item PRICE SETTING (Check as many as applicable):

[ ](1) Market Oriented___%
[ ]by market share/consumer demand___%
[ ]by survival___%
[ ]by competition___%
[ ]by product promotion___%
[ ]OTHER___%

[ ](2) Cost Oriented___%
[ ]by cost plus___%
[ ]by break-even___%
[ ]by standardized mark-up___%
[ ]OTHER___%

[ ](3) Performance Oriented___%
[ ]by store profitability___%
[ ]by dept. profitability___%
[ ]by Return on Investment (R.O.I.)___%
[ ]by cash flow___%
[ ]OTHER___%

If you checked OTHER for any of the items at the left, please explain.

Periodicity of formal price setting:
[ ]monthly[ ]quarterly[ ]semi-annual[ ]annual[ ]no formal price setting is done
[ ]other (explain)_____

OPERATIONAL PRICING
How do you periodically price adjust products (Check as many as applicable)?:

[ ]Going-rate (matching competition's price changes) ___%
[ ]Invoice (according to invoice price fluctuations) ___%
[ ]Product promotion (advertising special, etc.) ___%
[ ]Inventory change(order/on-hand quantity) ___%
[ ]Manufacturer &/or distributor request/incentive ___%
[ ]Other (explain)_____ ___%
[ ]No price adjusting is done

← Must Total 100%

PRICING MONITORS & CONTROLS
Identify the specific pricing monitors and controls employed:

[ ]Periodic review of all prices
[ ]Periodic review of select items
[ ]Check against local competition
[ ]Check against regional/national food price studies

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Please respond to items below relating to employee hours, pay and benefits, using a recent typical pay period. Use the identical recent typical pay period in the responses to items # 1 - 5.

1. Please indicate the time period you are using for the information given below Most recent typical week [ ] Most recent bi-weekly period [ ] Most recent typical month [ ]	
2. Total hours worked by all hourly (non-salaried) employees	
3. What was the total gross payroll for hourly employees (Exclude employer paid benefits)	
4. What was the total dollar value of fringe benefits *	
*If fringe benefit figure is not readily available, please estimate by % or $ amount. For this survey fringe benefits include only that portion of FICA, contribution to unemployment compensation, health insurance premium, contribution to pension plan or retirement fund, training costs, etc. paid by the employer.	_____% $_____

5. Hourly Employees	Average Number of Employees	Average # of hours worked per person per week	Average per employee	
			Average Hourly Rate	* Average Fringe Benefits
Full-time				
Part-time				

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Annual Data for 1988

	STORE
Gross Sales	$
Sales Allowances	$
Cost of Goods Sold	$
Actual Gross Profit	$
Target Gross Profit	$
Selling Space	Sq. Ft.
Warehouse Space	Sq. Ft.
Electricity Costs	$

Give Annual 1988 data in this section as a percentage of the store total.

	PRODUCE	MEAT	GROCERY	LIQUOR	HEALTH & BEAUTY	GENERAL MDSE.	DAIRY	FROZEN FOODS	OTHER
Gross Sales									
Sales Allowances									
Cost of Goods Sold									
Actual Gross Profit									
Target Gross Profit									
Selling Space									
Warehouse Space									
Electricity Costs									

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Annual Data for 1988

	STORE
Labor Cost Incl.Fringes	$
Manhours	Man hrs
Gross Receipts Tax	$
Freight	$
Excise Tax	$
Customs Duties	$

Give annual 1988 data in this section as a percentage of the store total.

	PRODUCE	MEAT	GROCERY	LIQUOR	HEALTH & BEAUTY	GENERAL MDSE.	DAIRY	FROZEN FOODS	OTHER
Labor Cost									
Manhours									
Gross Receipts Tax									
Freight									
Excise Tax									
Customs Duties									

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Enter annual 1988 data as a percentage of total store sales

	STORE
Pilferage	%
Spoilage	%
Damage	%
Outdated Goods	%
Bad Checks	%
Counterfeit Bills	%

Enter data in this section as a percentage of sales for the department

	PRODUCE	MEAT	GROCERY	LIQUOR	HEALTH & BEAUTY	GENERAL MDSE.	DAIRY	FROZEN FOODS	OTHER
Pilferage									
Spoilage									
Damage									
Outdated Goods									

Annual Data for 1988

SELLING AND RELATED COST	STORE
Advertising	$
Delivery & Hauling	$
Materials & Supplies	$
Uniforms	$

Give Annual 1988 data in this section as a percentage of the store total.

	PRODUCE	MEAT	GROCERY	LIQUOR	HEALTH & BEAUTY	GENERAL MDSE.	DAIRY	FROZEN FOODS	OTHER
Advertising									

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Annual Data for 1988

ADMINISTRATIVE COST	STORE
Depreciation (equip/fixt)	$
Repairs & Maintenance	$
Materials & Supplies	$
Mgt.Salaries (incl benef)	$
Professional Fees	$
Licenses & Fees	$
Insurance	$
Water	$
Telephone	$
Bank Service Charge	$
Debt Servicing	$

Give Annual 1988 data in this section as a percentage of the store total.

	PRODUCE	MEAT	GROCERY	LIQUOR	HEALTH & BEAUTY	GENERAL MDSE.	DAIRY	FROZEN FOODS	OTHER
Depreciation (equip/fixt)									
Repairs & Maintenance									
Materials & Supplies									

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost										ANNUAL
ITEM AND BRAND	Weight	Jan-Mar '88		Apr-June'88		July-Sept'88		Oct-Dec'88		Jan-Mar '89		Actual '88 Sales
CEREALS AND BAKERY												
Flour-Gold Medal	5 lb											
Rice-long grain-Uncle Ben's	10 lb											
Bread-white-Hearthside/Holsum	16 oz											
Bread-wheat-Hearthside/Holsum	16 oz											
Cookies-chips ahoy-Nabisco	16 oz											
Crackers-soda-Keebler	26 oz											
Corn Flakes-Kellogs	18 oz											
MEATS (USDA-Choice-Fresh)												
Chuck-ground (70%)	1 lb											
Chuck roast	1 lb											
Rib roast	1 lb											
Sirloin steak	1 lb											
Chuck steak	1 lb											
T-Bone steak	1 lb											
HAM & MISCELLANEOUS												
Bacon-sliced-Oscar Mayer	1 lb											

UVI/CRI REV.7/27/89

* SP=Selling Price IC=Invoice Cost

Food5

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost										ANNUAL
ITEM AND BRAND	Weight	Jan-Mar '88		Apr-June'88		July-Sept'88		Oct-Dec'88		Jan-Mar '89		Actual '88 Sales
Pork Chops-end cut (frozen)	1 lb											
Ham-rump-smoked	1 lb											
Ham-canned-Hormel	3 lb											
Sausage links-Jones (frozen)	1 lb											
Frankfurters-Chicken (any brand)	1 lb											
Bologna-Oscar Mayer	12 oz											
POULTRY (Grade A)												
Chicken-whole, fresh	1 lb											
Chicken-legs, fresh	1 lb											
Turkey-whole-Butterball(12-14lbs)	1 lb											
FISH												
Chunk Light Tuna, canned-Starkist	6 ½ oz											
King Fish-Fresh	1 lb											
King Fish-Frozen	1 lb											
Pot Fish-Fresh	1 lb											

UVI/CRI REV.7/27/89

* SP=Selling Price IC=Invoice Cost

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost										ANNUAL
ITEM AND BRAND	Weight	Jan-Mar '88		Apr-June'88		July-Sept'88		Oct-Dec'88		Jan-Mar '89		Actual '88 Sales
EGGS												
Grade A, large	1 doz											
DAIRY												
Milk, fresh-St.Thomas Dairy	1 qt											
Butter-Lurpak(STX)/Kerrygold(STT)	8 oz											
Ice Cream-Bordens	1 qt											
Cheese, Cheddar (Slices)	12 oz											
FRESH FRUITS												
Apples, red delicious(Washington)	3 lb											
Bananas-Dole	1 lb											
Oranges, navel-Sunkist	1 lb											
Grapefruit-(Calif.)	1 lb											
Lemons-(Calif.)	1 lb											
Peaches (2 1/4 in. diameter)	1 lb											
FRESH VEGETABLES												
Potatoes, white, Idaho	1 lb											
Lettuce, iceberg (Dole)	head											

UVI/CRI REV.7/27/89

* SP=Selling Price IC=Invoice Cost

Food7

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost										ANNUAL
ITEM AND BRAND	Weight	Jan-Mar '88		Apr-June'88		July-Sept'88		Oct-Dec'88		Jan-Mar '89		Actual '88 Sales
EGGS												
Grade A, large	1 doz											
DAIRY												
Milk, fresh-St.Thomas Dairy	1 qt											
Butter-Lurpak(STX)/Kerrygold(STT)	8 oz											
Ice Cream-Bordens	1 qt											
Cheese, Cheddar (Slices)	12 oz											
FRESH FRUITS												
Apples, red delicious(Washington)	3 lb											
Bananas-Dole	1 lb											
Oranges, navel-Sunkist	1 lb											
Grapefruit-(Calif.)	1 lb											
Lemons-(Calif.)	1 lb											
Peaches (2 1/4 in. diameter)	1 lb											
FRESH VEGETABLES												
Potatoes, white, Idaho	1 lb											
Lettuce, iceberg (Dole)	head											

UVI/CRI REV.7/27/89

* SP=Selling Price IC=Invoice Cost

Food7

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost										ANNUAL
ITEM AND BRAND	Weight	Jan-Mar '88		Apr-June'88		July-Sept'88		Oct-Dec'88		Jan-Mar '89		Actual '88 Sales
OTHER FOODS												
Sugar-Evercane	2 kilo											
BEVERAGES												
Coffee, instant-Maxwell House	4 oz											
Cola, canned-Coca Cola regular	6 pk											

UVI/CRI REV.7/27/89

* SP=Selling Price IC=Invoice Cost

Food9

Appendix V (b)

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS
Off-Island

The U.S. Virgin Islands Department of Licensing and Consumer Affairs was mandated by the Virgin Islands Government to conduct a food pricing study.

The Caribbean Research Institute (CRI) is conducting this study to analyze factors that constitute differences in retail food prices in various market areas. Completion of this questionnaire will help to support the accuracy of the study. Your responses will be considered confidential and used with other questionnaire responses to generate study results.

Surveyor_____ Date of Survey_____
Affiliation_____

Store Name_____Telephone Number_____
Respondent's Name_____Title_____
Location_____City_____Zip_____
Date_____

Store Location:
Stand alone ☐
Shopping Center/Mall ☐

Area:
Inner City ☐
Suburban ☐

Type of Store:
Supermarket [ ]

Store Hours:

	Time Open	Time Close
Monday	_____	_____
Tuesday	_____	_____
Wednesday	_____	_____
Thursday	_____	_____
Friday	_____	_____
Saturday	_____	_____
Sunday	_____	_____
Holidays	_____	_____

Store Ownership:
Private [ ]
Chain [ ]

Store Organization:
Corporation [ ]
Partnership [ ]
Sole Proprietor [ ]

Size of store in terms of Total Gross Square Feet:
_____Sq. Ft.

Special Customer Services (Check as many as applicable):

Product Price Marking	[ ]	Unit Pricing	[ ]	Service Deli	[ ]
Check Cashing	[ ]	Utility Bill Payments	[ ]	Service Meat	[ ]
Coupon Redemption	[ ]	Express Check-out Register	[ ]	Service Seafood	[ ]
Bagging Service	[ ]	Front-end Scanners	[ ]	Produce wrapped	[ ]
Plastic Bags	[ ]	Employee Uniforms	[ ]	Trading Stamps	[ ]
Paper Bags	[ ]	Contests or Games	[ ]	Continuity Prog	[ ]
Carryout Service	[ ]	Service Bakery	[ ]		

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA					
ITEM AND BRAND	Weight	PRICE	CHECK IF SALE ITEM	INDICATE DIFFERENT BRAND NAME	INDICATE DIFFERENT WEIGHT OR SIZE
CEREALS AND BAKERY					
Flour-Gold Medal	5 lb				
Rice-long grain-Uncle Ben's	10 lb				
Bread-white-Hearthside/Holsum	16 oz				
Bread-wheat-Hearthside/Holsum	16 oz				
Cookies-chips ahoy-Nabisco	16 oz				
Crackers-soda-Keebler	26 oz				
Corn Flakes-Kellogs	18 oz				
MEATS (USDA-Choice-Fresh)					
Chuck-ground (70%)	1 lb				
Chuck roast	1 lb				
Rib roast	1 lb				
Sirloin steak	1 lb				
Chuck steak	1 lb				
T-Bone steak	1 lb				
HAM & MISCELLANEOUS					
Bacon-sliced-Oscar Mayer	1 lb				

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FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA					
ITEM AND BRAND	Weight	PRICE	CHECK IF SALE ITEM	INDICATE DIFFERENT BRAND NAME	INDICATE DIFFERENT WEIGHT OR SIZE
Pork Chops-end cut (frozen)	1 lb				
Ham-rump-smoked	1 lb				
Ham-canned-Hormel	3 lb				
Sausage links-Jones (frozen)	1 lb				
Frankfurters-Chicken (any brand)	1 lb				
Bologna-Oscar Mayer	12 oz				
POULTRY (Grade A)					
Chicken-whole, fresh	1 lb				
Chicken-legs, fresh	1 lb				
Turkey-whole-Butterball(12-14lbs)	1 lb				
FISH					
Chunk Light Tuna, canned-Starkist	6 1/2 oz				
King Fish-Fresh	1 lb				
King Fish-Frozen	1 lb				
Pot Fish-Fresh	1 lb				

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA					
ITEM AND BRAND	Weight	PRICE	CHECK IF SALE ITEM	INDICATE DIFFERENT BRAND NAME	INDICATE DIFFERENT WEIGHT OR SIZE
EGGS					
Grade A, large	1 doz				
DAIRY					
Milk, fresh-St.Thomas Dairy	1 qt				
Butter-Lurpak(STX)/Kerrygold(STT)	8 oz				
Ice Cream-Bordens	1 qt				
Cheese, Cheddar (Slices)	12 oz				
FRESH FRUITS					
Apples, red delicious(Washington)	3 lb				
Bananas-Dole	1 lb				
Oranges, navel-Sunkist	1 lb				
Grapefruit-(Calif.)	1 lb				
Lemons-(Calif.)	1 lb				
Peaches (2 1/4 in. diameter)	1 lb				
FRESH VEGETABLES					
Potatoes, white, Idaho	1 lb				
Lettuce, iceberg (Dole)	head				

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name_____

ITEM DESCRIPTION AND PRICE DATA					
ITEM AND BRAND	Weight	PRICE	CHECK IF SALE ITEM	INDICATE DIFFERENT BRAND NAME	INDICATE DIFFERENT WEIGHT OR SIZE
Tomatoes, fresh (Dole)	1 lb				
Beans, green	1 lb				
Cabbage	1 lb				
Carrots (Dole)	1 lb				
Celery (Dole)	1 pkg				
Onions, yellow	3 lb				
Peppers, sweet(Green med. size)	1 lb				
PROCESSED FRUITS AND VEGETABLES					
Orange Juice, frozen-Minute Maid	12 oz				
Tomatoes sauce,canned-Goya	8 oz				
Peas, green, canned-Goya	16 oz				
Baby Food-Vegie Chicken-Gerber	small				
FATS AND OILS					
Margarine, tub-Parkay	1 lb				
Shortening-Crisco	3 lb				
Peanut Butter-Peter Pan	18 oz				
Vegetable Oil-Wesson	2 qt				

FOOD STUDY SURVEY
RETAIL FOOD OUTLETS

Store Name

ITEM DESCRIPTION AND PRICE DATA		Average Quarterly Sales Price and Invoice Cost			ANNUAL
ITEM AND BRAND	Weight	PRICE	CHECK IF SALE ITEM	INDICATE DIFFERENT BRAND NAME	INDICATE DIFFERENT WEIGHT OR SIZE
OTHER FOODS					
Sugar-Evercane	2 kilo				
BEVERAGES					
Coffee, instant-Maxwell House	4 oz				
Cola, canned-Coca Cola regular	6 pk				

Appendix VI

Summary of Demographics Questionnaire

Store Category	# of Stores	# of Employees Full	Part-Time	Store Location	Ownership	Size of Store sqft
Supermarket	1	25	44	Shopping Center	Chain	35,076
	1	20	71	Shopping Center	Chain	37,041
	1	44	57	Shopping Center	Chain	22,500
Total	3					
No Frills	1	9	2	Shopping Center	Private	3,500
	1	21	0	Stand Alone	Private	7,500
Total	2					
Speciality	1	2	0	Shopping Center	Private	1,500
	1	4	0	Shopping Center	Private	2,400
Total	2					

Appendix VII (a)

Average Freight Rates Charged Between
South Florida and the U.S. Virgin Islands
During June 1988

Shipper	20′	40′	40′ HC	45′
#1				
Groceries	$1,100	$1,873	$1,898	$2,136
Refrigerated: Chilled	2,163	3,344	3,522	0
Eggs/Dairy	0	0	3,400	0
Frozen	2,200	3,516	3,622	0
Poultry	0	0	3,500	3,622
#2				
Groceries	1,185	$1,873	$1,898	0
Refrigerated: Chilled	2,325	3,344	3,429	0
Eggs/Dairy	0	0	3,400	0
Frozen	2,410	3,516	3,622	0
Poultry	0	0	3,500	0
#3				
Groceries	$1,215	$1,948	0	0
Refrigerated: Chilled	0	3,544	3,722	0
Eggs/Dairy	0	0	3,400	0
Frozen	0	3,822	0	0
Poultry	0	0	3,500	0

Appendix VII (b)

Average Freight Rates Charged Between
South Florida and the U.S. Virgin Islands
During June 1989

Shipper	20′	40′	40′ HC	45′
#1				
Groceries	$1,026	$1,748	$1,748	$1,923
Refrigerated: Chilled	1,617	2,536	2,683	0
Eggs/Dairy	0	0	N/A	0
Frozen	1,617	2,536	2,683	0
Poultry	0	0	N/A	0
#2				
Groceries	$1,185	$1,873	$1,898	$ 0
Refrigerated: Chilled	1,617	2,536	2,683	0
Eggs/Dairy	0	0	N/A	0
Frozen	0	0	0	0
Poultry	0	0	0	0
#3				
Groceries	$1,101	$1,873	$1,898	$ 0
Refrigerated: Chilled	N/A	N/A	N/A	N/A
Eggs/Dairy	1,101	1,873	1,898	0
Frozen	N/A	N/A	N/A	0
Poultry	0	0	N/A	0

N/A--Data not available

Appendix VIII (a)

Table 6-4(a). Comparison of Supermarkets in the USVI and Selected Off-Islan Stores in Miami

Item description	Unit[1]	USVI average[2]	Miami average[3]
DAIRY PRODUCTS			
Eggs, large, Grade A	1 dz	1.36	1.12
Milk, fresh, St. Thomas Dairy	1 qt	0.90	0.79
Butter, Lurpak	8 oz	1.19	2.39
Cheese, cheddar	16 oz	4.25	2.39
Margarine, tub	1 lb	2.02	1.39
Group Average - dairy products		1.94	1.62
Indexed to USVI[4]		1.00	0.83
FROZEN FOODS			
Pork Chops, end cut, frozen	1 lb	2.82	1.78
Sausage, frozen link, Jones	1 lb	3.92	2.92
Turkey, whole, Butterball, 12-14#	1 lb	1.65	0.87
Ice cream	1/2 gl	4.54	3.19
Orange Juice, frozen, Minute Maid	16 oz	2.98	2.19
Group Average - frozen foods		3.18	2.19
Indexed to USVI[4]		1.00	0.69

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Two supermarkets in the Miami area were surveyed in November, 1989.

[4] The Miami group average was divided by the USVI group average to yield the index value.

Table 6-4(b). Comparison of supermarkets in the USVI and Selected Off-Island Stores in Miami

Item description	Unit[1]	USVI average[2]	Miami average[3]
GROCERY ITEMS			
Flour, Gold Medal	5 lb	1.54	1.54
Rice, long grain, Uncle Ben's	10 lb	6.30	7.24
Bread, white, Holsum	16 oz	0.99	1.03
Bread, whole wheat, Hearthside	16 oz	1.19	0.99
Cookies, Chips Ahoy, Nabisco	16 oz	3.09	2.29
Crackers, soda, Keebler export	26 oz	3.53	3.53
Corn flakes, Kelloggs	18 oz	2.34	2.39
Chunk light tuna, Starkist water/oil	6.5 oz	1.26	0.60
Tomatoes, sauce, Goya	16 oz	0.77	0.45
Peas, green, canned, Goya	16 oz	1.12	0.65
Baby food, vegetable chicken, Gerber	1 sm	0.47	0.25
Shortening	3 lb	4.46	2.79
Peanut butter	18 oz	3.41	1.86
Vegetable oil, Wesson	2 qt	5.55	3.14
Sugar, white, Evercane	1 lb	0.82	0.41
Coffee (instant Maxwell)	16 oz	18.02	10.36
Cola, regular, cans (Coca Cola)	6 pk	1.69	2.11
Group Average - grocery items		3.33	2.45
Indexed to USVI[4]		1.00	0.74

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Two supermarkets in the Miami area were surveyed in November, 1989.

[4] The Miami group average was divided by the USVI group average to yield the index value.

Table 6-4(c). Comparison of supermarkets in the USVI and Selected Off-Island Stores in Miami

Item description	Unit[1]	USVI average[2]	Miami average[3]
MEATS			
Chuck, ground (70%)	1 lb	1.87	1.72
Chuck roast	1 lb	2.50	2.19
Rib roast	1 lb	4.12	2.69
Sirloin steak	1 lb	4.99	3.99
Chuck steak	1 lb	2.17	1.78
T-bone steak	1 lb	5.94	4.99
Bacon, sliced, Oscar Mayer	1 lb	3.74	2.52
Ham, rump, smoked	1 lb	3.16	1.49
Ham, canned, Hormel	3 lb	12.09	8.03
Frankfurters, chicken	1 lb	1.51	1.47
Bologna, Oscar Mayer	12 oz	2.68	2.07
Chicken, whole, fresh	1 lb	1.29	0.74
Chicken, legs, fresh	1 lb	1.61	0.43
Group Average - meats		3.67	2.62
Indexed to USVI[4]		1.00	0.72

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Two supermarkets in the Miami area were surveyed in November, 1989.

[4] The Miami group average was divided by the USVI group average to yield the index value.

Table 6-4(d). Comparison of supermarkets in the USVI and Selected Off-Island Stores in Miami

Item description	Unit[1]	USVI average[2]	Miami average[3]
PRODUCE			
Apples, red delicious	1 lb	0.93	0.39
Bananas	1 lb	0.57	0.30
Oranges, navel	1 lb	0.82	0.73
Grapefruit	1 lb	1.24	0.33
Lemons	1 lb	1.45	0.95
Peaches	1 lb	1.21	0.89
Potatoes, white	1 lb	0.72	0.32
Lettuce, iceberg	1 hd	1.36	0.84
Tomatoes, field grown	1 lb	1.39	0.79
Cabbage	1 lb	0.62	0.25
Carrots	1 lb	0.88	0.32
Celery	1 pk	1.47	0.84
Onions, yellow	1 lb	0.55	0.31
Peppers, sweet	1 lb	1.38	0.64
Group Average - produce		1.04	0.56
Indexed to USVI[4]		1.00	0.54
All items together			
Overall Average		2.67	1.90
Indexed to USVI[4]		1.00	0.71

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Two supermarkets in the Miami area were surveyed in November, 1989.

[4] The Miami group average was divided by the USVI group average to yield the index value.

Appendix VIII (b)

Table 6-4(a). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in San Juan

Item description	Unit[1]	USVI average[2]	San Juan average[3]
DAIRY PRODUCTS			
Eggs, large, Grade A	1 dz	1.36	1.09
Milk, fresh, St. Thomas Dairy	1 qt	0.90	0.78
Butter, Lurpak	8 oz	1.19	0.71
Cheese, cheddar	16 oz	4.25	4.29
Margarine, tub	1 lb	2.02	0.96
Group Average - dairy products		1.94	1.57
Indexed to USVI[4]		1.00	0.81
FROZEN FOODS			
Pork Chops, end cut, frozen	1 lb	2.82	1.49
Sausage, frozen link, Jones	1 lb	3.92	3.94
Turkey, Butterball, frozen, 12-14#	1 lb	1.65	0.83
Ice cream	1/2 gl	4.54	5.16
Orange Juice, frozen, Minute Maid	16 oz	2.98	2.96
Group Average - frozen foods		3.18	2.88
Indexed to USVI[4]		1.00	0.90

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three supermarkets in the San Juan area were surveyed in September, 1989.

[4] The San Juan group average was divided by the USVI group average to yield the index value.

Table 6-4(b). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in San Juan

Item description	Unit[1]	USVI average[2]	San Juan average[3]
GROCERY ITEMS			
Flour, Gold Medal	5 lb	1.54	1.79
Rice, long grain, Uncle Ben's	10 lb	6.30	6.61
Bread, white, Holsum	16 oz	0.99	0.73
Bread, whole wheat, Hearthside	16 oz	1.19	1.03
Cookies, Chips Ahoy, Nabisco	16 oz	3.09	3.04
Crackers, soda, Keebler export	26 oz	3.53	2.39
Corn Flakes, Kelloggs	18 oz	2.34	2.01
Chunk light tuna, Starkist water/oil	6.5 oz	1.26	0.64
Tomatoes, sauce, Goya	16 oz	0.77	0.53
Peas, green, canned, Goya	16 oz	1.12	0.78
Baby food, vegetable chicken, Gerber	1 sm	0.47	0.42
Shortening	3 lb	4.46	3.42
Peanut butter	18 oz	3.41	2.99
Vegetable oil, Wesson	2 qt	5.55	3.01
Sugar, white, Evercane	1 lb	0.82	0.48
Coffee (instant Maxwell)	16 oz	18.02	13.17
Cola, regular, cans (Coca Cola)	6 pk	1.69	1.76
Group Average - grocery items		3.33	2.63
Indexed to USVI[4]		1.00	0.79

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three supermarkets in the San Juan area were surveyed in September, 1989.

[4] The San Juan group average was divided by the USVI group average to yield the index value.

Table 6-4(c). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in San Juan

Item description	Unit[1]	USVI average[2]	San Juan average[3]
MEATS			
Chuck, ground (70%)	1 lb	1.87	1.49
Chuck roast	1 lb	2.50	1.26
Rib roast	1 lb	4.12	3.67
Sirloin steak	1 lb	4.99	4.36
Chuck steak	1 lb	2.17	1.62
T-bone steak	1 lb	5.94	4.08
Bacon, sliced, Oscar Mayer	1 lb	3.74	2.72
Ham, rump, smoked	1 lb	3.16	0.95
Ham, canned, Hormel	3 lb	12.09	8.46
Frankfurters, chicken	1 lb	1.51	1.29
Bologna, Oscar Mayer	12 oz	2.68	2.76
Chicken, whole, fresh	1 lb	1.29	1.17
Chicken, legs, fresh	1 lb	1.61	1.84
Group Average - meats		3.67	2.74
Indexed to USVI[4]		1.00	0.75

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three supermarkets in the San Juan area were surveyed in September, 1989.

[4] The San Juan group average was divided by the USVI group average to yield the index value

Table 6-4(d). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in San Juan

Item description	Unit[1]	USVI average[2]	San Juan average[3]
PRODUCE			
Apples, red delicious	1 lb	0.93	0.89
Bananas	1 lb	0.57	0.39
Oranges, navel	1 lb	0.82	2.02
Grapefruit	1 lb	1.24	0.95
Lemons	1 lb	1.45	3.36
Peaches	1 lb	1.21	1.18
Potatoes, white	1 lb	0.72	0.60
Lettuce, iceberg	1 hd	1.36	1.35
Tomatoes, field grown	1 lb	1.39	1.08
Cabbage	1 lb	0.62	0.97
Carrots	1 lb	0.88	0.69
Celery	1 pk	1.47	1.62
Onions, yellow	1 lb	0.55	0.60
Peppers, sweet	1 lb	1.38	1.05
Group Average - produce		1.04	1.20
Indexed to USVI[4]		1.00	1.15
All items together			
Overall Average		2.67	2.21
Indexed to USVI[4]		1.00	0.83

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three supermarkets in the San Juan area were surveyed in September, 1989.

[4] The San Juan group average was divided by the USVI group average to yield the index value.

Appendix VIII (c)

Table 6-4(a). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in Washington, D.C.

Item description	Unit[1]	USVI average[2]	Washington, D.C. average[3]
DAIRY PRODUCTS			
Eggs, large, Grade A	1 dz	1.36	1.23
Milk, fresh, St. Thomas Dairy	1 qt	0.90	0.74
Butter, Lurpak	8 oz	1.19	1.57
Cheese, cheddar	16 oz	4.25	3.45
Margarine, tub	1 lb	2.02	1.61
Group Average - dairy products		1.94	1.72
Indexed to USVI[4]		1.00	0.89
FROZEN FOODS			
Pork Chops, end cut, frozen	1 lb	2.82	2.89
Sausage, frozen link, Jones	1 lb	3.92	2.78
Turkey, Butterball, 12-14#	1 lb	1.65	0.99
Ice cream	1/2 gl	4.54	4.02
Orange Juice, frozen, Minute Maid	16 oz	2.98	2.00
Group Average - frozen foods		3.18	2.54
Indexed to USVI[4]		1.00	0.80

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three Washington, D.C. supermarkets were surveyed in August, 1989.

[4] The Washington, D.C. group average was divided by the USVI group average to yield the index value.

Table 6-4(b). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in Washington, D.C.

Item description	Unit[1]	USVI average[2]	Washington, D.C. average[3]
GROCERY ITEMS			
Flour, Gold Medal	5 lb	1.54	1.45
Rice, long grain, Uncle Ben's	10 lb	6.30	9.15
Bread, white, Holsum	16 oz	0.99	1.09
Bread, whole wheat, Hearthside	16 oz	1.19	1.32
Cookies, Chips Ahoy, Nabisco	16 oz	3.09	2.49
Crackers, soda, Keebler export	26 oz	3.53	2.58
Corn flakes, Kelloggs	18 oz	2.34	2.09
Chunk light tuna, Starkist water/oil	6.5 oz	1.26	0.99
Tomatoes, sauce, Goya	16 oz	0.77	0.71
Peas, green, canned, Goya	16 oz	1.12	0.73
Baby food, vegetable chicken, Gerber	1 sm	0.47	0.27
Shortening	3 lb	4.46	2.21
Peanut butter	18 oz	3.41	2.12
Vegetable oil, Wesson	2 qt	5.55	3.63
Sugar, white, Evercane	1 lb	0.82	0.42
Coffee (instant Maxwell)	16 oz	18.02	16.01
Cola, regular, cans (Coca Cola)	6 pk	1.69	1.52
Group Average - grocery items		3.33	2.87
Indexed to USVI[4]		1.00	0.86

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three Washington, D.C. supermarkets were surveyed in August, 1989.

[4] The Washington, D.C. group average was divided by the USVI group average to yield the index value.

Table 6-4(c). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in Washington, D.C.

Item description	Unit[1]	USVI average[2]	Washington, D.C. average[3]
MEATS			
Chuck, ground (70%)	1 lb	1.87	1.76
Chuck roast	1 lb	2.50	2.72
Rib roast	1 lb	4.12	3.56
Sirloin steak	1 lb	4.99	3.29
Chuck steak	1 lb	2.17	2.62
T-bone steak	1 lb	5.94	4.86
Bacon, sliced, Oscar Mayer	1 lb	3.74	1.99
Ham, rump, smoked	1 lb	3.16	1.42
Ham, canned, Hormel	3 lb	12.09	9.53
Frankfurters, chicken	1 lb	1.51	1.08
Bologna, Oscar Mayer	12 oz	2.68	1.68
Chicken, whole, fresh	1 lb	1.29	0.96
Chicken, legs, fresh	1 lb	1.61	1.37
Group Average - meats		3.67	2.83
Indexed to USVI[4]		1.00	0.77

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three Washington, D.C. supermarkets were surveyed in August, 1989.

[4] The Washington, D.C. group average was divided by the USVI group average to yield the index value.

Table 6-4(d). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in Washington, D.C.

Item description	Unit[1]	USVI average[2]	Washington, D.C. average[3]
PRODUCE			
Apples, red delicious	1 lb	0.93	0.86
Bananas	1 lb	0.57	0.50
Oranges, navel	1 lb	0.82	1.13
Grapefruit	1 lb	1.24	0.73
Lemons	1 lb	1.45	0.60
Peaches	1 lb	1.21	0.91
Potatoes, white	1 lb	0.72	0.42
Lettuce, iceberg	1 hd	1.36	0.85
Tomatoes, field grown	1 lb	1.39	0.83
Cabbage	1 lb	0.62	0.27
Carrots	1 lb	0.88	0.47
Celery	1 pk	1.47	0.92
Onions, yellow	1 lb	0.55	0.41
Peppers, sweet	1 lb	1.38	0.71
Group Average - produce		1.04	0.69
Indexed to USVI[4]		1.00	0.66
All items together			
Overall Average		2.67	2.16
Indexed to USVI[4]		1.00	0.81

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] Three Washington, D.C. supermarkets were surveyed in August, 1989.

[4] The Washington, D.C. group average was divided by the USVI group average to yield the index value.

Appendix VIII (d)

Table 6-4(a). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in St. Maarten

Item description	Unit[1]	USVI average[2]	St. Maarten average[3]
DAIRY PRODUCTS			
Eggs, large, Grade A	1 dz	1.36	1.53
Milk, fresh, St. Thomas Dairy	1 qt	0.90	2.06
Butter, Lurpak	8 oz	1.19	2.35
Cheese, cheddar	16 oz	4.25	3.36
Margarine, tub	1 lb	2.02	1.12
Group Average - dairy products		1.94	2.08
Indexed to USVI[4]		1.00	1.07
FROZEN FOODS			
Pork Chops, end cut, frozen	1 lb	2.82	2.28
Sausage, frozen link, Jones		1 lb	3.92
Turkey, Butterball, frozen 12-14#	1 lb	1.65	1.32
Ice cream	1/2 gl	4.54	9.54
Orange Juice, frozen, Minute Maid	16 oz	2.98	2.19
Group Average - frozen foods		3.18	3.83
Indexed to USVI[4]		1.00	1.20

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989

[3] One supermarket in St. Maarten was surveyed in September, 1989.

[4] The St. Maarten store totals were divided by the USVI group average to yield the index value.

Table 6-4(b). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in St. Maarten

Item description	Unit[1]	USVI average[2]	St. Maarten average[3]
GROCERY ITEMS			
Flour, Gold Medal	5 lb	1.54	2.24
Rice, long grain, Uncle Ben's	10 lb	6.30	12.73
Bread, white, Holsum	16 oz	0.99	1.09
Bread, whole wheat, Hearthside	16 oz	1.19	1.31
Cookies, Chips Ahoy, Nabisco	16 oz	3.09	3.52
Crackers, soda, Keebler export	26 oz	3.53	4.62
Corn flakes, Kelloggs	18 oz	2.34	5.20
Chunk light tuna, Starkist water/oil	6.5 oz	1.26	1.17
Tomatoes, sauce, Goya	16 oz	0.77	0.98
Peas, green, canned, Goya	16 oz	1.12	0.86
Baby food, vegetable chicken, Gerber	1 sm	0.47	0.36
Shortening	3 lb	4.46	3.13
Peanut butter	18 oz	3.41	2.83
Vegetable oil, Wesson	2 qt	5.55	6.40
Sugar, white, Evercane	1 lb	0.82	0.45
Coffee (instant Maxwell)	16 oz	18.02	14.52
Cola, regular, cans (Coca Cola)	6 pk	1.69	2.44
Group Average -- grocery items		3.33	3.76
Indexed to USVI[4]		1.00	1.13

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] One supermarket in St. Maarten was surveyed in September, 1989.

[4] The St. Maarten store totals were divided by the USVI group average to yield the index value.

Table 6-4(c). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in St. Maarten

Item description	Unit[1]	USVI average[2]	St. Maarten average[3]
MEATS			
Chuck, ground (70%)	1 lb	1.87	
Chuck roast	1 lb	2.50	
Rib roast	1 lb	4.12	6.60
Sirloin steak	1 lb	4.99	6.93
Chuck steak	1 lb	2.17	
T-bone steak	1 lb	5.94	5.19
Bacon, sliced, Oscar Mayer	1 lb	3.74	3.19
Ham, rump, smoked	1 lb	3.16	
Ham, canned, Hormel	3 lb	12.09	6.33
Frankfurters, chicken	1 lb	1.51	1.50
Bologna, Oscar Mayer	12 oz	2.68	3.35
Chicken, whole, fresh	1 lb	1.29	1.15
Chicken, legs, fresh	1 lb	1.61	0.86
Group Average - meats		3.67	3.90
Indexed to USVI[4]		1.00	1.06

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] One supermarket in St. Maarten was surveyed in September, 1989.

[4] The St. Maarten store totals were divided by the USVI group average to yield the index value.

Table 6-4(d). Comparison of Supermarkets in the USVI and Selected Off-Island Stores in St. Maarten

Item description	Unit[1]	USVI average[2]	St. Maarten average[3]
PRODUCE			
Apples, red delicious	1 lb	0.93	0.82
Bananas	1 lb	0.57	0.50
Oranges, navel	1 lb	0.82	3.45
Grapefruit	1 lb	1.24	0.42
Lemons	1 lb	1.45	1.15
Peaches	1 lb	1.21	
Potatoes, white	1 lb	0.72	0.90
Lettuce, iceberg	1 hd	1.36	1.35
Tomatoes, field grown	1 lb	1.39	0.90
Cabbage	1 lb	0.62	1.07
Carrots	1 lb	0.88	0.60
Celery	1 pk	1.47	1.61
Onions, yellow	1 lb	0.55	0.55
Peppers, sweet	1 lb	1.38	1.14
Group Average -- produce		1.04	1.11
Indexed to USVI[4]		1.00	1.07
All items together			
Overall Average		2.67	2.90
Indexed to USVI[4]		1.00	1.08

[1] Unit prices were calculated based on BLS standard sizes with revisions as suggested by USVI focus group.

[2] Average prices from six USVI supermarkets surveyed in August, 1989.

[3] One supermarket in St. Maarten was surveyed in September, 1989.

[4] The St. Maarten store totals were divided by the USVI group average to yield the index value.

Appendix IX

Table 6-5. Comparison of Supermarkets USVI and Selected Off-Island Stores Group Averages

Group Average[1] Group Index	USVI[2]	Washington D.C.[3]	Miami[4]	San Juan[5]	St. Maarten[6]
Dairy Group Average	1.94	1.72	1.62	1.57	2.08
Indexed to USVI[7]	1.00	0.89	0.83	0.81	1.07
Frozen Group Average	3.18	2.54	2.19	2.88	3.83
Indexed to USVI[7]	1.00	0.80	0.69	0.90	1.20
Grocery Group Average	3.33	2.87	2.45	2.63	3.76
Indexed to USVI[7]	1.00	0.86	0.74	0.79	1.13
Meats Group Average	3.67	2.83	2.62	2.74	3.90
Indexed to USVI[7]	1.00	0.77	0.72	0.75	1.06
Produce Group Average	1.04	0.69	0.56	1.20	1.11
Indexed to USVI[7]	1.00	0.66	0.54	1.15	1.07
Overall Average	2.67	2.16	1.90	2.21	2.90
Indexed to USVI[7]	1.00	0.81	0.71	0.83	1.08

[1] Group averages for each food group were calculated using unweighted unit prices for surveyed stores in each location.

[2] Six supermarkets were surveyed in the USVI in August, 1989.

[3] Three supermarkets were surveyed in the Washington, D.C. area in August, 1989.

[4] Two supermarkets in the Miami area were surveyed in November, 1989.

[5] Three San Juan area supermarkets were surveyed in September, 1989.

[6] One supermarket in St. Maarten was surveyed in September, 1989.

[7] Each group average was divided by the USVI group average to yield the index value.

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