An Economic Enquiry into the Causes of the Perceived Asymmetric Price Transmission in Markets for Specific Consumer Goods in Jamaica

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Abstract
The objective of this study is to enhance our understanding of the pricing mechanism in the food distribution industry in Jamaica. The study became relevant because of the general public perception that prices of food items in Jamaica rise faster than they fall - a phenomenon which often is referred to as *asymmetric price transmission* (APT) and for which economists have offered multiple alternative explanations. We explore whether and the extent to which the pricing strategies employed in the distributive trade in Jamaica are consistent with the four explanations which have been most prominently researched. To accomplish this, we rely on mainly the opinion of businesses operating at various segments (i.e. importation, production, distribution, wholesale and retail) of the distributive trade. We also utilised price data collected at the wholesale and retail segments of the trade. Based on our analysis of the preliminary data, we conclude that APT in Jamaica may be explained by (i) anticompetitive conduct at the retail level - in the form of coordinated conduct by some retailers; and (ii) relative uncertainties in a key economic variable - in the form of instability in the foreign exchange market. These results are necessarily preliminary and, as such, more forensic analysis must be undertaken to confirm their validity.

1 Introduction

The distributive trade is an extremely important sector in the Jamaican economy as it contributed just over one-fifth of the economy's real GDP in 2007.[1] Economists have shown, conceptually and in practice, that relative to other market structures, markets which are competitively organised will yield the greatest social surplus; in terms of lower prices, greater output, greater variety and better quality goods and services. For these reasons, the ultimate beneficiaries of competition are final consumers of goods and services.

During 2008, there was the distinct general public perception that prices in Jamaica seem to have been rising faster than the rate at which they fall. If confirmed, this would suggest that the distributive trade is operating inefficiently and thereby depriving consumers of the potential benefits which competitive markets offer. Given the relative contribution of the distributive trade to the Jamaican economy, there is a legitimate concern that undue delays in the decline of prices would have non-negligible adverse implications for consumer welfare - in terms of delayed or denied surplus. Such concerns, and others regarding the supply of basic food items, have since been at the centre of discussions among participants in the monthly meeting between participants in the distributive trade and representatives of the Ministry of Industry, Investment and Commerce (MIIC).

The goal of this study is to uncover impediments to competition in the distributive trade in Jamaica. The study focuses on thirteen basic food items, the prices of which have been tracked by the Consumer Affairs Commission (CAC) since 1995.[2] The advantage of limiting our analysis to this group of food items is twofold: firstly, we have reliable, high frequency data series on retail prices of these goods as they have been tracked by the CAC. Secondly, focussing on the most prominent basic food items implies that a greater cross-section of Jamaicans will benefit directly from policy interventions which seek to improve the efficiency in which the items are distributed in Jamaica.

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[1] Planning Institute of Jamaica (2007, I)

[2] The food items are corned beef, canned mackerel; canned sardine, salted fish, whole frozen chicken, sweetened condensed milk, powered milk, cooking oil, dark sugar, bulk rice, bulk cornmeal, bulk counter flour, and bread.

Beginning July 2008, the price of crude oil rose to nearly US$146 per barrel; and by the end of October 2008, the price of crude oil declined to under US$60 per barrel. The retail prices of gasoline rose and fell, in tandem, with that of crude oil. The price of commodities also began to fall after May 2008. These fall in the prices of inputs on the world market brought with them the expectation that prices of food items, which had earlier risen mainly due to rising oil and commodity prices, would be falling locally too. Retail prices in Jamaica have been slow to follow the recent drastic fall in commodity and oil prices; and by December 2008, the Jamaican consumer continued to anticipate the fall in food prices in the local retail outlets. The immediate concern emerging from such developments, therefore, is the reason for the delayed reductions in retail prices; and the magnitude of such reductions relative to the reductions in price of inputs is such that prices never appreciably approach their previous levels. The discrepancy between the rise in prices following increases in costs and the fall in prices following reductions in costs is what is described as asymmetric price transmission (henceforth, APT).

The study seeks to identify the more probable factors responsible for the perceived APT in Jamaica. One view (mentioned by many traders we interviewed) is that wholesalers had been engaged in forward buying when prices were rising so that when grain (commodity) prices began to fall, traders had stock-piled with more expensive grains, and therefore would realize losses if they were to lower prices. A second view is that there was no forward buying; but while prices of grains were falling, utility bills and other input costs were rising [Minutes of the Distributive Trades Meeting (Consumer Affairs Commission(CAC), August 8, 2008, 3) and (CAC, September 12, 2008, 3)]. A third view is that retailers are exploiting the existence of information asymmetry between consumers and retail traders. A fourth view (emerging from our interviews with retail traders) is that in Jamaica once prices increase they never recede, in part, due to recurring macroeconomic instability. These four views seem to point to multiple sources of APT in Jamaica.

The main issue, and indeed a longstanding question in the APT literature, is whether patterns of price increases are different from patterns of price decreases in the wholesale and retail markets. The main contention, at least in the sticky price literature, has been that retail prices are sticky downward following large decreases in wholesale prices (Peltzman, 2000), but they increase

almost simultaneously with wholesale prices. This calls into question the efficiency with which the net benefits from price changes are equitably distributed among producers, wholesalers, retailers, and final consumers.

The rest of the study has been arranged as follows. Section 2 provides a brief overview of the literature related to APT and focuses on the various researches that have been conducted in other parts of the world on the relevant subject matter. Section 3 presents the data collection methodologies that were employed to study this phenomenon in Jamaica; and the analyses of the responses received from business stakeholders. Section 4 suggests two methods of empirical analysis to test for the existence and the extent of price asymmetries in Jamaica; and Section 5 provides a conclusion.

2   Literature on Asymmetric Price Transmission

This section reviews the relevant literature on APT. It is worth noting that Meyer and Cramon-Taubadel (2004) presented a detailed survey of the same literature. In this regard, we have avoided repeating what they have already covered, and of course, the reader is referred to these and other works that are referenced in this document.

In Jamaica and elsewhere in the world, consumers tend to expect retail price changes to be the same (both in magnitude and speed) as wholesale prices changes. APT arises whenever there is mismatching of price changes at retail and wholesale levels. In the literature there are different types of APT. Meyer and Cramon-Taubadel (2004, 583-586), for example, have documented three criteria for classifying APT. The first criterion points to a situation where price in the downstream retail market can respond to changes in wholesale prices, either in magnitude or speed or both. Consequently, there are asymmetries in magnitude, speed, or both. The second criterion classifies APT using either positive or negative price asymmetry, signifying the two directions of transfer of benefits to final consumers. For example, if retail prices fall faster in one period relative to increases in retail prices in another, we would have a negative price asymmetry, which ultimately increases benefits to the final consumer. However, a slower fall in retail prices relative to a rapid increase gives rise to a positive measure of price asymmetry, thus lowering benefits to the final consumer. This criterion assumes that: increases and decreases in wholesale prices in the two periods are equal and benefits from price asymmetry always accrue to the retailers. The third criterion focuses on whether price asymmetry affects either vertical or spatial price transmission. See, Meyer and Cramon-Taubadel (2004, 583-586) for a detailed exposition of the three types of APT.

Several sources of APT have been theorised in the literature. We explore four of these in the following subsections. Additionally, we review some of the most recent empirical tests of APT.

2.1   Menu Adjustment (or Repricing) Cost

Menu cost refers to the real resources such as labour and printing costs, needed to change the nominal prices. According to Ball and Mankiw (1994), menu cost is a plausible source of price asymmetry in the retail markets. These costs are incurred whenever a price is adjusted; and are

independent of the size of the adjustment. Ball and Mankiw (1994) are of the view that in an environment in which the rate of inflation is increasing, real prices naturally decline over time. See also Dutta *et al* (1999) and Dutta *et al* (2000) for the assessment of the role of menu costs on pricing in multiproduct retail markets in the United States. In this situation, positive wholesale price shocks may lead to larger and even faster retail price responses. However, negative wholesale price shocks may lead to smaller and even slower retail price responses. This seems to suggest that retail traders respond asymmetrically to price shocks.[3]

It is presumed that businesses normally act strategically in order to maximize their profit margins (Zheng, Miller Wang, and Kai 2008). Since price decreases tend to lower profit margins and increases tend to increase profit margins (Cutts and Kirsten 2006), retailers will strategically adjust prices to keep the profit margin as wide as possible. Thus, when wholesale prices fall retailers will delay lowering the prices of their products; when wholesale prices rise, however retailers will almost instantaneously increase prices.

2.2 Inventory, Production, and Waiting Costs

In the event that production capacities and schedules are fixed in the short-term, despite a fall in input costs output remains constant. In such situations retail enterprises may not decrease their prices in order to limit the impact of potential excess demand for the product. That is, retailers will try to maintain adequate levels of inventory. Likewise, when the costs of input increase, retailers with old stock would maintain prices in order to avoid costs associated with restocking inventory. Reagan and Weitzman (1982) have presented a model with asymmetric inventory adjustment costs. They observe that prices should respond more to situations of excess demand than to excess supply in the short run, because competitive enterprises have greater ability and incentives to respond with inventory adjustment in the case of excess supply.

2.3 Search Costs

Search costs are incurred by a consumer when he/she visits many stores in search of competitive prices. Examples of search costs are transportation (fuel) costs and time taken to cover the

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[3] A shock refers to predictable or unpredictable changes in factors (e.g., dramatic oil price increases in the early 1970s and in 2007-2008) external to an enterprise's price and supply decisions, but impacts on internal business activities of the enterprise.

search. Search costs in imperfect markets, associated with asymmetric information may lead to asymmetric price adjustment (Cutts and Kirsten, 2006).[4] In a situation in which consumers may not respond quickly to price changes in the presence of search costs, retailers may find a window for increasing (decreasing) prices faster (slower) following rises (falls) in wholesale prices. Furthermore, consumers may not have complete information about the prices of products at the relevant retail outlets. Consequently, sellers may take advantage of this information asymmetry and maintain their retail prices when the wholesale prices decrease.

It is argued that in many instances, consumers may form habits and therefore may develop tendencies to shop at certain stores for certain products, such that they may view changing shopping habits as costly. Furthermore, if price changes were very small such that shopping around would be viewed as more costly (in terms of time and transportation) relative to the price increase at the consumer's preferred store, consumers would ignore the price changes and maintain their shopping routines (Levy *et at* 2006, 1). Hence, retailers with market power may exploit the asymmetric information to increase their profit margins and cause price asymmetries.

2.4   Market Power and Changes in the Product Demand

This view addresses the structural and institutional contexts of the markets in which APT is being considered. If businesses possess a considerable degree of market power,[5] as may be reflected in concentration and integration (both vertical and horizontal)[6], they may maintain prices when their input costs decrease, thereby earning economic rents. Firms may strategically choose to maintain prices until demand conditions begin to improve. Particularly, an enterprise may observe a reduction in its sales and infer that rival enterprises may have to reduce their prices and this may prompt the enterprise to reduce its own price (Borenstein, Cameron and Gilbert, 1997).

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[4] Search costs are costs incurred by a consumer when he/she visit many stores in search of competitive prices. Examples of search costs are transportation (fuel) costs and time taken to cover the search.

[5] Market power is the ability of an enterprise (or group of enterprises) to raise and maintain price above a competitive level. Market (industry) concentration measures the relative position of enterprises in the provision of goods and services in an industry.

[6] Vertical integration is a merger in which several stages in the production and distribution are controlled by one enterprise. Horizontal integration is a merger among enterprises involved in the production and distribution of same or similar products and services.

The key point to note is that there are several potential sources of APT. It is therefore unlikely that one is able to determine the exact sources of the observed price asymmetry. Given that some of these reasons may be more plausible in some markets than in others, one may be able to examine findings from several empirical test of APT in order to determine the probable causes.

2.5   Empirical Evidence of APT

Economic researchers (mainly agricultural economists) have conducted hypothesis tests for APT in several agricultural product markets using different methods and data.[7] Interestingly, they have generally reached different conclusions. For example, Miller and Hayenga (2001) test the symmetry of high and low-frequency cycles in weekly pork prices. They find evidence of relatively low-frequency cycles of asymmetric price transmission from wholesale price changes to retail prices and that farm pork prices are asymmetrically transmitted to wholesale prices at all frequencies. Chavas and Mehta (2004) investigating price dynamics in a vertical (butter) market using a reduced form vector autoregression (VAR), find evidence of a strong APT. Cutts and Kirsten (2006) test APT using cointegration and error correction model applied to four South African Agro-food industries. They conclude that there is a high level of APT in those agro-food industries with high market concentration. However, when the retail product is perishable, the level of APT falls.

More recently, Zheng, Miller, Wang, and Kai (2008), using error correction models (ECM) for producer, wholesale, and retail prices, investigate the presence of APT in several agricultural markets in the US. They find strong evidence of farm-to-wholesale and wholesale-to-retail APT in the markets for beef, broilers, eggs, turkey, potatoes, tomatoes and lemons. It is clear from these empirical results that the prevalence APT is highly farm specific.

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[7] Other farm product publications include Azzam (1999); Levy, Dutta, Bergen and Venable (1998); Slade (1998); and Peltzam (2000); Rotemberg (2002).

3   Data Collection Methodologies and Analyses

3.1   The Survey

Two sets of survey were utilized. The first set of survey relates to the collection of consumer prices of basic food items by the CAC on a monthly basis (in 2007) and a weekly basis (in 2008). These prices were collected from retailers/supermarkets island-wide; and relates to the following food items: corned beef; canned mackerel; canned sardine, salted fish; whole frozen chicken, sweetened condensed milk; powdered milk; cooking oil; dark sugar; bulk rice; bulk cornmeal; bulk counter flour; and bread (900g), among others.

The second set of survey was undertaken by the FTC. A questionnaire consisting of thirty questions covering a wide range of issues was administrated to members of the distributive trade. The design of the questionnaire was in the spirit of the seminal work of Blinder *et al* (1998), which has been applied by Kwapil *et al* (2005). The questionnaires were divided into two parts. Section A comprises six questions which focus on identifying enterprises with respect to their position in the distribution chain, their membership of any trade associations and/or clubs, and the food items which they sell. Section B, is more detailed as it seeks to: (1) characterize the prevailing market structures in the food distribution trade; (2) evaluate the prominence (percentage market share) of participating traders; (3) determine whether conditions exist that facilitate collusive agreements; (4) ascertain how participating traders set and change prices; and (5) uncover factors that influence the direction and magnitude of price changes.

The questionnaires were administered to 17 distinct enterprises operating at various segment of the distributive trade over the period March 3 to 24, 2009. A sample unit in our study is defined as an enterprise operating at a specific level of the distributive trade. The basic geographic market under consideration comprises the parishes of Kingston and Saint Andrew.

Given the focus of the study, the participating traders can be classified in different levels as: importers, producers/processors, distributors, wholesalers, and retailers. Section B of the questionnaire was designed to capture the pricing concerns directly associated with each level of trade. Question 1 asks each of the 17 enterprises to identify itself as an importer, producer/processor, distributor, wholesaler, and/or retailer. The responses to the question

revealed the effective sample size to be 31 traders, of which seven (or 24.1 percent) are importers, eight (or 27.6 percent) are distributors, four (or 13.8 percent) are producers/processors, three (or 10.3 percent) are wholesalers, and nine (or 24.1 percent) are retailers.

Question 2 asks "… please indicate whether you have a retail outlet from which you sell to final consumers directly." The question seeks to eliminate the ambiguity that might arise when the respondent is addressing pricing and costing concerns of section B. The results indicate that three out of 11 respondents have retail outlets. The three with the retail outlets are producers/processors.

Question 3 asks "Are you a member of any local regional or international trade associations or trade clubs?" Question 4 asks, *"If you respond* **yes** *to question 3, name them."* The objective of these questions is to identify whether the market could facilitate coordinated price and supply decisions among enterprises.

Table 1 below summarizes the responses. Twenty six (83.9 percent) of the respondents are members of at least one trade association and/or club. This in itself cannot be used as a barometer to infer that traders are participating in agreements designed to limit competition in the industry. The names of local trade associations and clubs are reported in Table 1.

Table 1: Trade Associations and Clubs

Trade Level	Yes (%)	Clubs	No (%)
Importers (7)	7 (22.6%)	CMA,JCC, JMA, JEA, PSOJ	-
Producers (6)	6 (19.4%)	CMA,JCC, JMA, PSOJ	-
Distributors (6)	5 (16.1%)	CMA,JCC, JMA, JEA, PSOJ	1 (3.2%)
Wholesalers (3)	2(6.6%)	CMA,JCC, JMA, JEA, PSOJ	1 (3.2%)
Retailers (9)	6(19.4%)	Progressive Grocers of Jamaica	3 (9.7%)
Total (31)	26(83.9%)		5(16.1%)

Source: From FTC Survey, 2009
Notes:
1. CMA – Caribbean Manufacturers Association; JCC – Jamaica Chamber of Commerce; JMA – Jamaica Manufacturers' Association Limited; Jamaica Exporters Association; PSOJ – Private Sector Organization of Jamaica
2. Six retailers indicated that they are members of at least a trade association and/or club. Of these one is affiliated to Grace Kennedy Foods, one affiliated to Super Plus Chain of stores, and four are all members of Progressive Grocers of Jamaica.
3. All up-stream traders indicated that they are members of at least two trade associations and/or clubs. All except three (Caribbean Broilers, Nestle Jamaica, and Lasco foods) indicated that they are affiliated to enterprises who sell similar food items.

In question 5 we ask "From the following list, indicate the item(s) and brand(s) which you sell." The results indicate that each retail trader sells all 13 basic food items. Certain enterprises at the higher level of trade (i.e., they are closer to buying goods from the manufacturer than they are to selling the goods to final consumers) sell different brands of some food items. The information shows that two traders (Caribbean Broilers and Jamaica Broilers) specialize in the distribution and sales of whole frozen chicken, one trader (Nestle Jamaica) specializes in the distribution of sweetened condensed milk, and another (Jamaica Flour Mills) specializes in processing and distributing bulk counter flour and bulk rice. It is highly possible that traders who specialize in individual food items can be a monopoly seller of those food items.

3.1.1   Market structure

In question 7 we ask, "Are you affiliated with any other enterprise(s) which distributes (sells) the same or similar food items to those you indicated in question 5?" The question seeks to characterize the type of integration (either horizontal or vertical) among participating enterprises. A follow-up question 8 asks, "If your response to question 7 is **yes**, please name them".

Table 2 summarizes the responses to these questions. The results reveal that more than 50 percent of the respondents are affiliated to at least one enterprise that sells similar food items. It is probably worth noting that four (4) out of nine (9) retailers are members or affiliated to Progressive Grocers of Jamaica Limited (henceforth, Progressive Group). Additionally, we note

that the Progressive Group seems to set prices and direct member stores to follow through.[8] In particular, the Progressive Group advertised special deals in February and March of 2008, in the Food Section of the Thursday edition of the Daily Gleaner. The advertisements identify the food items on special, as well as the participating stores.[9]

Table 2: Affiliations between traders

Trade Level	Yes (%)	Affiliates	No (%)
Importers (7)	5 (16.1%)	Seprod, Facey, Grace	2(6.5%)
Producers (4)	3(9.7%)	Grace	1(3.2%)
Distributors (8)	5(16.1%)	Seprod	4 (12.9%)
Wholesalers (3)	1(3.2%)	Seprod	2 (6.5%)
Retailers (9)	5 (16.1%)	HiLo (Grace), Progressive Group	3(9.7%)
Total (31)	19(61.3%)		12 (38.7%)

Source: FTC Survey, 2009

In Question 9 we ask, "For each of the items you sell, please indicate the approximate number of competitors." The question has one objective - to characterize the industry's market structure. A person without a competitor for a particular food item in a given region is classified as a monopoly. Those persons with more than 20 competitors may be operating in a relatively competitive market. While those persons with between 1 and 20 competitors may be operating under a relatively less competitive market.

Before one can identify competitors, relevant geographical market boundaries have to be defined. Of course the product market must also be identified, and for the purpose of this study, each of the 13 food items identified in question 5 is the relevant product market. Note that different brands of the same product are treated as substitutes, to an extent that ceteris paribus, consumers choose between them based, mainly on prices. The relevant geographic market has been defined as the region in which each trader operates. For supermarkets, it may be as narrow as for example, the Cross Roads region in Kingston 5; while for importers, producers and distributors the geographic market may be as wide as Jamaica.

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[8] Price setting among interconnected enterprises would not contravene the Fair Competition Act (FCA). However, price setting among non-interconnected enterprises is prohibited by section 17-18 of FCA. The nature of interconnection among members of Progressive Grocers of Jamaica must be established to make a definitive assessment of the alleged pricing practices.

[9] The participating stores happen to be the twenty three (23) stores affiliated to the Progressive Group. See for example, The Gleaner, Thursday, March 26, 2009

The results presented in Table 3 indicate that more than 50 percent of the respondents have less than five competitors. This seems to suggest that the retail market in some geographical regions, within Kingston, may be dominated by one or two supermarket(s) or a group of related supermarkets. In certain geographical markets, for example, in the Half Way Tree area, on Constant Spring Road (Brooklyn and New Brooklyn supermarkets) and in the Liguanea area (Sovereign Supermarket, Shoppers Fair, and Loshusan Supermarket), related supermarkets are in the same geographical market. Based on these results, we infer that many food items sold in KSA are traded in oligopolistic retail markets.[10]

Table 3: Number of competitors for each food item (retailers)

	None	Between 1 to 5	Between 5 to 20
Corned Beef	1	5	3
Canned Mackerel	1	5	3
Canned Sardine	1	5	3
Dry Salted Fish	1	6	2
Frozen Chicken	1	5	3
Condensed Milk	1	5	3
Powdered Milk	1	5	3
Cooking Oil	1	5	3
Dark Sugar	1	5	3
Bulk Rice	1	5	3
Bulk Cornmeal	1	5	3
Bulk Counter Flour	1	5	3
Bread	1	5	3

Source: FTC Survey, 2009.
Note: All eligible traders responded to this question; and none of the respondents indicated that it has more than 20 competitors.

Table 4 presents information relating to the number of competitors for each respondent from the non-retailer category. There is a clear indication that majority of the participating traders have 1 to 20 competitors. We can therefore conclude that many of the traders are operating in a less competitive market. Three food items (namely, bulk counter flour, bulk rice, sweetened condensed milk) are processed and sold to traders in the retail market by only two traders in the

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[10] An oligopoly is a market structure characterized by a few firms and many buyers, homogeneous or differentiated products and difficult market entry.

up-stream market; the first two food items are processed and sold by Jamaica Flour Mills (JFM) and the last food item is processed and sold by Nestle Jamaica Limited. We conclude that for these food items, the traders in the producer/processor and distributor markets are operating under a monopoly.

Table 4: Number of competitors for each food item (non-retailers)

	None	Between 1 to 5	Between 5 to 20	More than 20
Corned Beef	-	-	4	-
Canned Mackerel	-	-	4	-
Canned Sardine	-	-	2	-
Dry Salted Fish	-	-	1	-
Frozen Chicken	-	-	-	2
Condensed Milk	1	-	-	-
Powdered Milk	-	3	-	-
Cooking Oil	-	-	3	-
Dark Sugar	-	-	-	-
Bulk Rice	-	1	3	-
Bulk Cornmeal	-	-	2	-
Bulk Counter Flour	-	3	-	-
Bread	-	-	-	1

Source: FTC Survey, 2009
Note: All eligible traders responded to this question.

3.1.2   Market Shares

Question 10 asks, "What is the approximate market share of each of the food items that you sell or distribute?" Market share is the proportion of total market sales accounted for by an individual enterprise in a defined geographic market. This data is used to measure the degree of seller concentration in a market. Table 5 summarises the responses offered by the respondents. Note that majority of the supermarkets have a market share falling in the range 11 to 30 percent. According to Table 6, majority of the non-retailers have market share falling in the range 0 to 10 percent. Of the 13 food items, four traders have market share of more than 50 percent. The food items in question are 106g and 125g sardine, 395g sweetened condensed milk, bulk rice, and bulk counter flour. Each of the last three food items has a market share of at least 80 percent. This supports our earlier inference that the up-stream traders of these food items are a monopoly.

Table 5: Market Shares according to each Food Item (Retailers)

	6-10%	11-20%	21-30%	Non-respondents
Corned Beef	1	2	3	3
Canned Mackerel	3	2	3	1
Canned Sardine	-	2	3	4
Dry Salted Fish	-	2	2	5
Frozen Chicken	-	3	3	3
Condensed Milk	-	2	3	4
Powdered Milk	1	2	2	4
Cooking Oil	3	2	3	1
Dark Sugar	-	2	3	4
Bulk Rice	1	3	3	2
Bulk Cornmeal	3	2	3	1
Bulk Counter Flour	1	2	3	3
Bread	-	2	2	5

Source: FTC Survey, 2009

Note: None of the respondents indicated that it has a market share less than 6% or greater than 30%.

Table 6: Market Shares according to each Food Item (Non-Retailers)

	0-5%	6-10%	11-20%	21-30%	31-50%	>50%	Non-respondents
Corned Beef	-	1	-	1	-	-	3
Canned Mackerel	-	3	-	1	-	-	3
Canned Sardine	4	-	-	-	-	1	1
Dry Salted Fish	1	-	-	-	-	-	1
Frozen Chicken	-	-	1	-	1	-	1
Condensed Milk	-	-	-	-	-	1	1
Powdered Milk	-	1	-	-	1	-	3
Cooking Oil	-	3	-	-	-	-	3
Dark Sugar	-	-	-	-	-	-	1
Bulk Rice	-	-	1	-	-	1	3
Bulk Cornmeal	-	3	2	-	-	-	
Bulk Counter Flour	-	-	1	-	-	1	3
Bread	-	-	-	1	-	-	1

Source: FTC Survey, 2009

3.1.3 Evidence of Re-sale Price Maintenance

In questions 12 and 13, we aim at establishing the existence of re-sale price maintenance in the industry. The responses from all retailers indicated that bakers of bread suggest prices at which the food item should be sold. Furthermore, certain traders were of the opinion that they would have been treated differently if they failed to follow the suggested prices. These results seem to suggest that there is some level of enforcement of resale price maintenance (RPM).[11] Some of the supermarkets allied to Progressive Group indicated that there is some form of price setting done by the group at its head office. This is done by way of advertisements of *weekly or holiday special deals* in the print media (mainly the *Daily Gleaner*) and the advertisement seems to direct consumers to 23 participating supermarkets, all allied to the Progressive Group.

Information received from our interviews suggests that the Progressive Group tend to engage in buyer cartel activities - meaning that the Group purchases goods as a single entity on behalf of its members. The food items are then distributed to members of the group and are resold at prices suggested by the Group. This feature of RPM can be revealed from a time-series plot of all four (supermarket) members of the group which were interviewed. There seem to be a strong co-movement among prices of certain food items sold by the four supermarkets. This is particularly true when one examines the dates on which prices were adjusted upward in these stores. See the graphs in the Appendix A3.

3.1.4 Determination of Prices by Traders

Question 14 (13 for importers) is concerned with how traders set prices of the food items they distribute (or sell). Five options have been provided. The results revealed that 80 percent of all respondents determine the prices of the food items they sell by mark-up pricing. The remaining respondents indicated the option - *Other. (Please explain)*. This follow-up question received different responses with varied explanations. Four of these responses are worth highlighting. One respondent indicated that "*we price according to manufacturing cost, overhead cost and add margins.*" A second respondent indicated that the prices of the food items are set "*based on competitiveness in canned protein category of food items in the market.*" A third trader responded "*we watch what is happening in the market.*" One interpretation to these three

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[11] RPM refers to the conduct whereby an enterprise dictates the price at which its goods should be resold

responses is that certain traders tend to watch prices of their competitors. This was confirmed by one of the Super Plus supermarkets which is located in the Half Way Tree area. The fourth trader responded that prices are "*set by the Progressive Grocers Limited.*"

Assuming that competing enterprises strategically watch each other before setting or changing prices of related food items, a regression of the price of whole frozen chicken sold at, for example, Empire supermarket on the price of whole frozen chicken sold at, for example, HiLo supermarket which is also located in Cross Roads, should give an approximate indication of the extent to which these two stores depend on one another when setting prices. The regression of wholesale price (p_{wsale}) on retail prices at Empire (p_{emp}) can be represented by:

(1) $p_{emp,t} = \alpha + \beta_1 p_{wsale,t} + e_t$

The constant α is the intercept and β_1 is a constant representing the influence of a one dollar increase in the wholesale price p_{iwt} on the retail price p_{irt} at a supermarket. A single regression indicate that although retail price of whole frozen chicken depends mostly on its wholesale price, the retail price at a competing store, is also important to a certain degree. For example, regressing Empire retail price of whole chicken on wholesale price of whole chicken, indicate that a one dollar increase in price at the wholesale end corresponds to 99.7 cents increase in price of chicken at Empire supermarket. This does not infer a causal relationship between wholesale price and Empire's retail price. The explanatory power of the model is $R^2 = 0.6917$, which is an indication that the model is able to explain 69.2 percent of variations in the retail price of frozen whole chicken sold at Empire supermarket.

(2) $p_{emp,t} = \alpha + \beta_1 p_{wsale,t} + \beta_2 p_{HiLo,t} + v_t$

However when Empire is regressed on both the wholesale and HiLo prices of whole chicken, as in equation (2), the results indicate that a one dollar increase in chicken price at HiLo ($p_{HiLo,\ t}$) corresponds to a 15 cent increase in the price of chicken at Empire ($p_{emp,\ t}$) and a one dollar increase in whole chicken price at the wholesale level ($p_{wsale,\ t}$) corresponds to a 79 cent increase in chicken price at Empire supermarket. The explanatory power of the model is $R^2 = 0.7011$; that

is the model is able to explain about 70.1 percent of variations in the retail price of frozen whole chicken sold at Empire supermarket.

3.1.5   Evidence of Menu Adjustment Costs

In questions 16 to 18 (14 to 16 for importers, 15-17 for retailers) we examine the significance of menu costs in the event that price changes are to be implemented. Question 16 (14 for importers, 15 for retailers) asks "What tasks are involved in changing your prices whenever price changes need to be implemented? Please explain." The respondents offered varying responses. However, all can be summarized as follows: [they] first estimate the costs associated with new prices due for implementation, then adjust prices in the store's electronic database, and finally inform (by phone, email, and/or text message) customers about the impending price changes.   These processes should account for the relative importance of menu (adjustment) costs in the overall business activity.

Question 17 (15 for importers, 16 for retailers) asks "Over the period January 2007 to December 2008, on average, how often did your prices change?" The question seek to examine whether price increases are implemented on a regular (once every … week, month, 3 months, or 6 months) or irregular (other) manner. We expected most respondents to indicate *other*, *please explain*, due to the fact that on average, external factors (grains and crude oil prices) to the business activities of the enterprises were the main sources of adjustments in prices over the period under consideration. The results however, indicate that the frequencies of price adjustments are different between products, trade levels, and supermarkets.

Question 18 (16 for importers, 17 for retailers) asks for the extent of the impact of price adjustments on the production and processing costs. The question is directly related to question 16 (14 for importers). Again, the respondents offered various comments. They can be summarized in the following statement: costs associated with the price adjustment process are insignificant. The comments seem to suggest that menu costs have an insignificant impact on the speed and magnitude of price adjustment and transmission of benefits/loses to consumers emerging from price changes at the wholesale level.

3.1.6   Inventory, Production and Waiting Costs

Question 19 (17 for importers, 18 for retailers) examines the possible conditions under which each of the respondents would delay raising the prices of the food items they sell. The comments varied from: *concerns that the demand for one's products will shrink; to if the changes in costs of inputs are insignificant; they will delay raising prices of the food items*. Other comments focused around the existence of inventories, that is, one would sell old stock at old price, thus delaying raising prices. It is worth noting that 25 percent of retailers in the sample indicated that they would not delay raising prices of their food items. This was based on the fact that price increases in most cases arise from increases in the cost of input, and if one is already cutting his/her margin, then it would be rational to delay raising prices.

Question 20 (19 for retailers, 18 for importers) seeks to identify the extent to which traders raise their prices following an increase in their costs. All nine retailers responded, eight of which indicated that transmitting price increase "… *depends on the particular food item*." They offered some of the following reasons. (i)*The 13 food items are sensitive[12] and the store with higher prices for those items are generally perceived by consumers to be high priced stores*; *we use mark-up pricing and mark-up change in certain occasions*; (ii) depends *on the level of demand*; and (iii) *depends on market conditions.*

In a nutshell, these comments seem to suggest that price increases are not immediately transmitted to the final consumer. This was supported by the response that "we first test the market with a small price increment to see whether the market could bear such an increase." The response seems to reflect step-wise price increases such that the full magnitude of price adjustments may only be covered after some delay.

Question 21 examines the possible factors that may prevent implementing an immediate price increase. Eight options were provided and each interviewee was allowed to select multiple responses. Most of the participants chose options "*the concern that in the near future, we will have to re-adjust prices in the opposite direction*" and "*we raise prices only if costs increase, but as a rule, we wait a short while before raising prices*". These two prominent options speak to the perception of uncertainty and expectation formation by both retailers and non-retailers. Thus

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[12] The elasticity of demand for 13 food items is greater than the elasticity of other food items.

perceived uncertainty, associated with recurring instability in key price determinants (e.g., the exchange rate, commodity, and crude oil prices) is viewed with a degree of importance, when traders are setting prices of food items.

Question 22 asks "Under what circumstance do you delay lowering prices of the food items?" The question seeks to find the reason for the perceived slow speed of pass-through of price cuts in Jamaica. Results comprised varied responses, which included, "*we don't delay lowering prices*" (offered by most distributors, importers, producers and retailers), "*minimizing costs associated with adjusting prices*" (if the price cuts are extremely small that they would not yield enough revenue (from additional demand) to compensate for the time taken to adjust these prices), "*stock on hand; if these goods were bought at higher prices, then it is only logical to delay lowering their prices*", and "*if competitive prices remain high.*"

The most popular answer that lowering of prices are never delayed at any level of food distributive trade in Jamaica suggesting that prices fall faster than they rise, seem to be at odds with the general perception in Jamaica. However, if it is true that the speed at which prices adjust is almost immediate, then the pertinent issue should be whether prices fall and rise by the same magnitude. Though the issue is the concern of an econometric evaluation of different types of APT, we begin to address this matter qualitatively in questions 23 and 25.

Question 23 (22 for retailers, 21 for importers) seek to find the percentage by which traders lower their prices, on average, following a reduction in costs; it addresses the magnitude side of price adjustments. The results indicate that about 40 percent of the respondents passed the entire amount of cost increases to their customers. About 28 percent of the respondents indicated that the reduction in prices following a cost reduction "… *depends on the particular food item.*" The respondents offering this response gave a number of explanations, which can be summarised as follows: it depends on the competitive price, but prices will be reduced according to the relevant costs. This may be interpreted to mean that a dollar reduction in costs is followed, eventually, by a dollar reduction in price.

Question 24 (23 for retailers, 22 for importers) is concerned with examining the possible factors that may prevent implementing an immediate price reduction by food traders. Eight options were provided and each participating trader was allowed to make multiple choices. Most of the participants chose two options: "*the concern that in the near future, we will have to re-adjust prices in the opposite direction*" and "*we reduce prices only if costs decrease, but as a rule, we wait a short while before reducing prices.*" The respondents seem to convey their concerns of perceived and realised economic uncertainties in Jamaica; the uncertainties which are taken into account whenever traders are pricing their food items.

3.1.7   Miscellaneous (Effects of Commodity and Crude Oil Prices)

In questions 25 to 28, we seek to characterize the relationship between price adjustments in world commodity and crude oil markets and price adjustments on basic food items in Jamaica over the period January to December 2008. The focus of questions 25 and 26 is on price increases over the period January to July 2008, while the focus of questions 27 and 28 is on price reductions over the period June to December 2008.

Question 25 (24 for retailers, 23 for importers) asks "During the months of January to July, to what extent, on average, did you raise the prices of the food items that you sell?" Five options were offered, namely: (1) *by less than 10 percent*, (2) *by between 10 and 20 percent*, (3) *by between 20 to 30 percent*, and (4) *by more than 30 percent*. The results reveal that 40 percent of all respondents chose the third option (i.e. between 20-30 percent), followed by the first option, chosen by 35 percent of the respondents. Interestingly, the second option was chosen by 43 percent of retailers; and all producers/processors chose only two options: either the first or the third. This suggests that retailers' margin is in the range of 10-20%. This is inconsistent with the rate of increases in crude and commodities prices.

In this period, it is estimated that commodity and crude oil prices rose by between 50 and 65 percent. In Jamaica imported petroleum oil accounts for over 90 percent of the country's energy input in the production/processing of food items and others. We therefore assumed that combined changes in the prices of commodity and crude oil can have some significant impact on price adjustments in the basic food industry. In the light of these facts, question 26 (25 for

retailers, 24 for importers) asks "Over the period January to July 2008 commodity and crude oil prices rose, on average, by more than 50 percent. Your response to question 25 indicates that the increases in your prices have not been as large as price increases in the commodity and crude oil markets. Which of the factors below could account for this?"

Table 7: Factors preventing price increases, January to July 2008

Factors	Importers	Producers	Distributors	Wholesalers	Retailers	Total
A	2	1	2	1	1	**7**
B	2	1	4	1	6	**14**
C	1	-	2	1	1	**5**
D	2	-	2	-	-	**4**
E	-	-	1	-	2	**3**
F	-	-	-	1	1	**2**
G	-	-	-	1	1	**2**
H	1	-	2	1	2	**6**
I	-	-	-	-	1	**1**
J	-	-	-	-	-	**0**
K	2	1	-	1	2	**4**
L	-	2	3	-	1	**6**

Source: FTC Survey, 2009
Note: Factors are as follows – A (The depreciation of the Jamaican dollar) B (Increases in wage costs) C (Increases in taxes or Government levied fees) D (Increases in price by our competitors) E (Increases in the demand of the item) F (Increase in the rate of inflation) G (Reduction in the prices of several of our other goods) H (Some of these goods were purchased at higher import prices) I (Increases in the loan rate of interest) J (Our electricity bill remained at a high level) K(Price decreases take long to trickle down to us) L (Others)

Nine options are provided. Summary of the responses are presented in table 7 above. It is clear from the table that most of the respondents chose option B (*the stability of the Jamaican dollar*). This constituted 67 percent of the retailers, 50 percent of the distributors, 25 percent of the producers, and 29 percent of importers. These traders were of the opinion that the stability of the Jamaican dollar contributed to the moderate increases in food prices, and was inconsistent with the increases in commodity and crude oil prices in the first half of 2008. Option A (*prices of crude oil do not significantly affect our costs*) was also selected by half the number of respondents that chose option B. This information seems to suggest that increases in crude oil and commodity prices did not play a major role in the upward adjustments in food prices in Jamaica during the months of January to July of 2008. However, stability of the Jamaican dollar played a major role in the moderate increase in food prices (especially among importers and

distributors) at a time when commodity and crude oil prices were rising by more than 50 percent.[13]

Question 27 (26 for retailers, 25 for importers) asks, "During the months of January to July, to what extent, on average, did you reduce the prices of the food items that you sell?" Four options are provided. The information collected (not reported here) indicates that the majority (54 percent) of the respondents chose option A (*by less than 7 percent*), followed by option B (by *between 7 and 13 percent*), chosen by 26 percent of the respondents, and the remaining respondents chose option C (*by more than 19 percent*).

Choosing options A, B, or C suggests that changes in food prices in Jamaica had not been consistent with changes in commodity and crude oil prices. Thus, question 28 asks "Over the period June to December 2008, commodity and crude oil prices fell, on average, by more than 30 percent. Your response to question 27 indicates that the reductions in your prices have not been as large as price reductions in the commodity and crude oil markets. Which of the factors below could account for this?"

Table 8 summarises the responses. From the table, four interrelated factors seem to have been important in the setting of food prices during this period. These are reflected in the following responses. Twenty (27) percent of the respondents chose "*the depreciation of the Jamaican dollar*"; about 15 percent chose "*some of these items were purchased at higher wholesale prices*"; about 11 percent chose "*price decreases take long to trickle down to us*"; and about 10 percent chose "*increase in the rate of inflation*" as factors which could have accounted for the inconsistency of price changes in Jamaica to those changes in the commodity and crude oil markets. Many of the respondents seem to agree with the general perception that the recurring instability of the Jamaican dollar against the major international currencies prevented the reductions in food prices.

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[13] We note that over the period January to July of 2008 the Jamaican dollar depreciated marginally against the US dollar. However, in the period August to December of 2008 the Jamaican dollar depreciated by about 12 percent, with the dramatic depreciation of about seven (7) percent during the period October 1 through November 18, 2008

Table 8: Factors Preventing price increases, July to December 2008

Factors	Importers	Producers	Distributors	Wholesalers	Retailers	Total
A	2	3	5	1	6	**17**
B	2	2	-	-	1	**5**
C	1	-	2	-	-	**3**
D	2	-	-	-	2	**4**
E	-	-	-	-	1	**1**
F	-	1	3	-	2	**6**
G	-	-	-	-	-	**0**
H	1	-	4	1	3	**9**
I	-	-	-	-	-	**0**
J	-	1	4	-	1	**6**
K	2	-	2	-	3	**7**
L	-	1	-	1	2	**4**

Source: FTC Survey, 2009

Note: Factors are as follows – A (The depreciation of the Jamaican dollar) B (Increases in wage costs) C (Increases in taxes or Government levied fees) D (Increases in price by our competitors) E (Increases in the demand of the item) F (Increase in the rate of inflation) G (Reduction in the prices of several of our other goods) H (Some of these goods were purchased at higher import prices) I (Increases in the loan rate of interest) J (Our electricity bill remained at a high level) K(Price decreases take long to trickle down to us) L (Others)

3.1.8 Competitive Food Market

In question 29 (27 for importers, 28 for retailers) we ask "If you expect that the current increase in the demand for you food item is only temporary, what would be your reaction?" and in question 30 (28 for importers, 29 for retailers) we ask "If you expect that the current reduction in the demand for your food item is only temporary, what would be your reaction?" Four options are provided for each of these questions. Almost all respondents chose "*Increase the level of supply, while leaving prices at the same level*" and "*Reduce the level of supply, while leaving prices at the same level*", for questions 29 and 30, respectively.

4   Suggested Empirical Models for Testing APT in Jamaica

The study represents a useful first step in analysing the causes of APT in Jamaica. Because our analysis relied heavily upon the expressed opinions/views of business stakeholders, we suggest that this work be extended to determine whether and the extent to which they are consistent to actual price changes across the various levels in the distributive trade and wider macroeconomy. As pointed out in the review of related literature, the test for the existence of APT in the food industry has been conducted using various empirical models, ranging from a simple single product linear regression of retail prices on wholesale prices to a complex multi-product non-linear regression analysis. Equation (1) of the previous section is an example of the earliest pre-cointegration linear models.

In conducting this test for the food industry in Jamaica, there is need for one to adopt two models, the pre-cointegration linear model and the post-cointegration vector autoregression model augmented with error correction terms. The first method is fairly straight forward in its implementation. The second method, however, is dependent on identifying the structure of the relevant market.

5 Summary and Conclusion

The study has been conducted to characterize sources of perceived and/or prevailing APT in Jamaica. The staff designed and administered a questionnaire to 17 individual traders. Of note is that some traders operate at more than one level of the distributive trade. Accordingly, the sample consisted of seven importers, four producers/processors, eight distributors, three wholesalers and nine retailers (supermarkets).

Based on the analysis of responses from the survey of traders, we find the following: (i) all traders indicate that they set prices based on the mark-up pricing rule; (ii) APT may be due, in part, to (a) the volatility of the exchange rate, (b) inventory costs and (c) other variable costs (e.g., electricity); (iii) information asymmetries may be allowing traders to maintain and or widen profit margins in retail market, and is a plausible source of asymmetric price transmission in the food industry in Kingston and Saint Andrew; (iv) grains and crude oil prices in the international markets in themselves are not sufficient to explain the overall production and processing costs of food items locally; (v) menu cost is a very small proportion of the production cost; and (vi) most traders are members of trade associations and clubs, and some are affiliated with enterprises which distribute (or sell) same or similar food items.

The two main results are as follows:

(i) The APT may be the result of anticompetitive conduct

- More than a half of the respondents are members of at least one trade association or club. This is a factor that can facilitate collusive practices – joint determination of business decisions among rival enterprises.
- There is (unsubstantiated) allegation of resale price maintenance in the distribution of bread (Continental Baking Company).
- There is unsubstantiated evidence of resale price maintenance on the part of Progressive Grocers' Group.

(ii) The APT may be the result of an unpredictable business climate.

- The relative instability of the Jamaican dollar may be contributing to the APT observed in the distribution of basic food items. For example, during the period January through

June 2008, which corresponds to the period when international costs were rising significantly, the Jamaican dollar depreciated by approximately 2 percent; in contrast, during the period July through December 2008, which corresponds to the period when international costs were declining, the Jamaican dollar depreciated by an even greater amount, that of approximately 12 percent.

These results above are necessarily preliminary and, as such, more forensic analysis must be undertaken to confirm their validity.

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APPENDIX A1

Letter requesting information

February 23, 2009

Mr. Dominique Rose
Caribbean Broilers (Ja) Ltd
27 Upper Waterloo Road
Kingston 10

Dear Sirs:

Re: Study of the Distributive Trade Industry

Pursuant to section 9 (1) of the Fair Competition Act (FCA), the Minister of Industry, Investment and Commerce, the Honorable Karl Samuda has given directions to the Fair Trading Commission (FTC) to conduct a study to identify the main influences on price adjustments at the various levels of the distributive trade.

Accordingly, we are in the process of collecting information for use in the study and ask that you facilitate this process by providing us with historical information on the prices of each of the following thirteen basic food items which you may sell:

1. Corned Beef (340g);
2. Mackerel (155g);
3. Sardine (Brunswick)- 106g;
4. Dried Salted Fish;
5. Chicken;
6. Sweetened Condensed Milk;
7. Powdered Milk (Lasco);
8. Cooking Oil (Chef)- 500 mL;
9. Dark Sugar;
10. Bulk Rice;
11. Bulk Cornmeal;
12. Counter Flour; and
13. Bread - 900g

The data should be disaggregated on a weekly basis and cover the period January 2007 through December 2008.

Retailers such as supermarkets should provide their selling prices per unit measure of each of the food item (e.g., the price of 1 tin of Grace Corned Beef (340g) – J$113.32)

Importers, manufacturers/processors and wholesalers should provide their selling prices per bag, bundle, container or case. Please be sure to indicate the number of single food items in each bag, bundle, container or case. For example, the selling price of a case containing 24 tinned Mackerel (155g) – J$4,785.00 or the selling price of a 25 kg bag of dried salted fish.

Kindly submit the information requested no later than **March 16, 2009** in a spreadsheet (e.g. Microsoft excel 2003 or earlier) format.

Additionally, we have determined that our study should reflect the views of businesses operating in the distributive trade. As such, we have prepared questionnaires designed to document the views of importers, manufacturers/processors, wholesalers and retailers. We will contact you shortly to arrange for a mutually convenient date and time whereby a representative of the Commission will administer the questionnaire. The interview is expected to last for less than one hour.

The Commission is aware that information you submit may include commercially sensitive information. We, therefore, assure you that we will take all reasonable steps to ensure that this information is not disclosed to third parties unless we deem disclosure appropriate during the execution of our function(s) under the Act.

Thank you in advance for your assistance and cooperation; and we welcome any query or clarification that you may have.

Yours truly,
FAIR TRADING COMMISSION

………………………………….
Kevin Harriott, Ph.D.
Competition Bureau Chief
for **EXECUTIVE DIRECTOR**

KH/daw

APPENDIX A2

SECTION A: (TO BE COMPLETED BY ALL TRADERS)

Please respond by either placing a **TICK** in the box [ ] provided or by writing in the space provided.

1. At which level of the distributive trade do you operate? (You may select more than one option)

   a. [ ]   Importer

   b. [ ]   Producer/Processor

   c. [ ]   Distributor

   d. [ ]   Wholesaler

   e. [ ]   Retailer

2. If option (e) is not selected, please indicate whether you have a retail outlet from which you sell to final consumers directly. [|]

3. Are you a member of any local, regional or international trade associations or trade clubs?

Yes	No

4. If your response to question (3) is **YES**, please indicate in the space provided below the name(s) of the association(s). Otherwise **go to** question (5). ---

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5. From the following list, indicate the item(s) and brand(s) which you sell.

a. ☐ Corned Beef

Eve	Geddy's	Grace	Lasco	Ramson	Other

b. ☐ Canned Mackerel

Eve	Geddy's	Grace	Lasco	Other

c. ☐ Canned Sardine

Brunswick	Eve	Other

d. ☐ Salted Fish

Dry	Semi-Dry	Wet

e. ☐ Whole Frozen Chicken

Best Dressed	CB chicken

f. ☐ Sweetened Condensed Milk

Nestle	Betty

g. ☐ Powdered Milk

Anchor	Lasco	Readimilk	Other

h. ☐ Cooking Oil

Chef	Eve	Grace	Lider	Uncle Sam	Other

i. ☐ Dark Sugar

j. ☐ Bulk Rice

k. ☐ Bulk Cornmeal

l. ☐ Bulk Counter Flour

m ☐ Bread (**900g**)

6. [**ONLY RESPOND TO THIS IF YOUR ARE NOT A RETAILER**.] In the space provided, please indicate the unit weight (or volume) of each item and the number of units in a case distributed to your customers.

Corned Beef	Eve	Geddy's	Grace	Lasco	Ransom
Unit weight per Can	340g	340g	340g	340g	340g
Number of Cans in a Case					

Canned Mackerel	Eve	Geddy's	Grace	Lasco	Other
Unit weight per Can	155g	155g	155g	155g	155g
Number of Cans in a Case					

Canned Sardine	Brunswick		Eve		Other
Unit weight per Can	106g		106g		106g
Number of Cans in a Case					

Salted Fish	Dry		Semi-Dry		Wet
The Smallest Unit (in kg) sold					

Whole Chicken	Best Dressed		CB Chickens		Other
The Smallest Unit (in kg) sold					

Sweetened Condensed Milk	Nestle		Betty		Other
Unit weight per Can	397g		397g		397g
Number of Cans in a Case					

Powdered Milk	Anchor		Lasco		Readimilk
Unit weight (in g) per sachet					
Number of sachets in a Case					

Cooking Oil	Chef	Eve	Grace	Lider	Ramson
Unit volume per bottle	500mL	500mL	500mL	500mL	500mL
Number of bottles in a Case					

Dark Sugar	
Unit weight per bag	
Bulk Rice	
Unit weight per bag	
Bulk Cornmeal	
Unit weight per bag	
Bulk Counter Flour	
Unit weight per bag	
Bread	900g
Number in a Crate (Case)	

7. Are you **affiliated** with any other enterprise(s) which distributes (or sells) the same or similar food items to those you indicated in question (5)?

Yes	No

8. If your response to question (7) is YES, please name them. --- --

SECTION B: (QUESTIONNAIRE FOR ALL TRADERS)

9. For each of the food items you sell please indicate, by a **TICK**, the approximate number of competitors

	None	Between 1 to 5	Between 5 to 20	More than 20
Corned Beef				
Canned Mackerel				
Canned Sardine				
Dry Salted Fish				
Frozen Chicken				
Condensed Milk				
Powdered Milk				
Cooking Oil				
Dark Sugar				
Bulk Rice				
Bulk Cornmeal				
Bulk Counter Flour				
Bread				

10. What is the approximate market share of each of the items you indicated in question (5)? For each of the food

items, please **TICK** one box [   ] only.

	0-5%	6-10%	11-20%	21-30%	31-50%	> 50%
Corned Beef						
Canned Mackerel						
Canned Sardine						
Dry Salted Fish						
Frozen Chicken						
Condensed Milk						
Powdered Milk						
Cooking Oil						
Dark Sugar						
Bulk Rice						
Bulk Cornmeal						
Bulk Counter Flour						
Bread						

11. Please provide us with a **SPREAD SHEET** of **WEEKLY (PER UNIT) PRICES** of the food items which you

identified in question (5). [**Please focus on the period January 2007-December 2008**]

12. Do you suggest to your commercial customers, the price at which they should re-sell your food items?

Yes	No

13. How do you determine the price of your food item(s)?

a. ☐ We apply mark-up pricing.

b. ☐ We set the price below competitor's price.

c. ☐ We follow prices suggested by our suppliers.

d. ☐ We set the price above competitor's price.

e. ☐ Other. Please explain. --

14. What tasks are involved in changing your prices whenever price changes need to be implemented? Please

explain. ---

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15. Over the period January 2007 to December 2008, on average, how often did your prices change?

	Once every …				
	… week	**… month**	**… 3 months**	**… 6 months**	**Other**
Corned Beef					
Canned Mackerel					
Canned Sardine					
Dry Salted Fish					
Frozen Chicken					
Condensed Milk					
Powdered Milk					
Cooking Oil					
Dark Sugar					
Bulk Rice					
Bulk Cornmeal					
Bulk Counter Flour					
Bread					

16 To what extent do the adjustments of your prices affect your costs? Please explain -----------------------------------

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17. Under what conditions do you delay **raising** the prices of any of the items identified in question (5)?---------------

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18. If there was a one dollar ($1.00) **increase** in the unit cost of processing one of the food items, by how much would you **raise** the price of the item?

a. ☐ By less than 50 cents.

b. ☐ By between 50 and 75 cents.

c. ☐ By between 75 cents and one dollar.

d. ☐ By one dollar.

e. ☐ It depends on the particular food item. Please explain. ---

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19. If you have reasons for **raising** the prices of the food items identified in question (5), which of the following factors may **prevent** you from **increasing** your prices immediately?

a. ☐ Our competitors have not yet raised their prices and therefore we wait for them to lead and we

follow.

b. ☐ The price used is a psychological one, e.g., $99.95 per kilo of counter flour and this only changes

when there is a new psychological price, say, $109.95.

c. ☐ The concern that in the near future, we will have to readjust prices in the opposite direction.

d. ☐ Raising prices entails incurring additional costs, e.g., printing new price lists, changing display

prices, and communicating new prices to customers.

e. ☐ We raise prices only if costs increase, but as a rule, we wait a short while before raising prices

f. ☐ We do not increase prices but will change conditions of purchase – e.g., extend delivery time,

adjust credit terms, etc.

g. ☐ The current price reflects the cost at which we purchased the food item.

h. ☐ Other. Please explain. ---

20. Under what circumstances do you delay **lowering** prices of the items identified in question (5)? --------------------

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21. If there was a one dollar ($1.00) **reduction** in the unit cost of processing one of the food items, by how much would you **reduce** the price of the item?

a. ☐ By less than 50 cents.

b. ☐ By between 50 and 75 cents.

c. ☐ By between 75 cents and one dollar.

d. ☐ By a dollar.

e. ☐ It depends on the particular food item. Please Explain. ---

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22. If you have reasons for **reducing** the prices of the food items identified in question (5), which of the following factors may **prevent** you from **reducing** your prices immediately?

a. ☐ Our competitors have not yet reduced their prices, therefore we wait for them to lead and we follow.

b. ☐ The current price is a psychological one, e.g., $99.95 per kilo of counter flour and this only changes when there is another psychological price, say, $89.95.

c. ☐ The concern that in the near future we will have to readjust prices in the opposite direction.

d. ☐ Reducing prices entails incurring additional costs, e.g., printing new price lists, modifying our website, etc.

e. ☐ We reduce prices only if costs decrease, but as a rule, we wait a short while before reducing prices.

f. ☐ We do not reduce our prices but will change other conditions of purchase – e.g., shorten delivery time, adjust credit terms, etc.

g. ☐ The current price reflects the cost at which we purchased the food item.

h. ☐ Other. Please explain. --

23. During the months of January to July of 2008, to what extent (on average) did you **raise** the prices of the items identified in question (5)?

a. ☐ By less than 10 per cent.

b. ☐ By between 10 and 20 per cent.

c. ☐ By between 20 and 30 per cent.

d. ☐ By more than 30 per cent.

24. [**Respond ONLY if response to question (23) is (a), (b), or (c).**] Over the period January to July 2008, commodity and crude oil prices rose, on average, by more than 50 per cent. Your response to question (**23**) above indicates that the **increases** in your prices have not been as large as price **increases** in the commodity and crude oil markets. Which of the factors below could account for this?

a. ☐ Prices of crude oil do not significantly affect our costs.

b. ☐ The stability of the Jamaican dollar.

c. ☐ Decreases or stability in wage costs.

d. ☐ Decreases in taxes or decreases Government fees.

e. ☐ Our competitors did not increase their prices.

f. ☐ Increases in the demand of the item.

g. ☐ Increases in the prices of several of our other goods.

h. ☐ Stability of the borrowing rate of interest.

i. ☐ Our electricity bill did not increase drastically.

j. ☐ Price increases take a long time to trickle down to us.

k. ☐ Others. Please specify. ---

25. During the months of June to December of 2008, to what extent (on average) did you **reduce** the prices of the items identified in question (5)?

a. ☐ By less than 7 percent.

b. ☐ By between 7 and 13 percent.

c. ☐ By between 13 and 19 percent.

d. ☐ By more than 19 percent.

26. [**Respond ONLY if response to question (25) is (a), (b), or (c).**] Over the period June to December 2008, commodity and crude oil prices fell on average by more than 30 percent. Your response to question (**25B1**) above indicates that the **reductions** in your prices have not been as large as price **reductions** in the commodity and crude oil markets. Which of the factors below could account for this?

a. ☐ The depreciation of the Jamaican dollar.

b. ☐ Increases in wage costs.

c. ☐ Increases in taxes or Government levied fees.

d. ☐ Increases in price by our competitors.

e. ☐ Increase in the demand of the food item.

f. ☐ Increase in the rate of inflation.

g. ☐ Reduction in the prices of several of our other goods.

h. ☐ Some of these items were purchased at higher import prices.

i. ☐ Increases in our loan rate of interest.

j. ☐ Our electricity bill remained at a high level.

k. ☐ Price decreases take long to trickle down to us.

l. ☐ Others. Please specify. ---
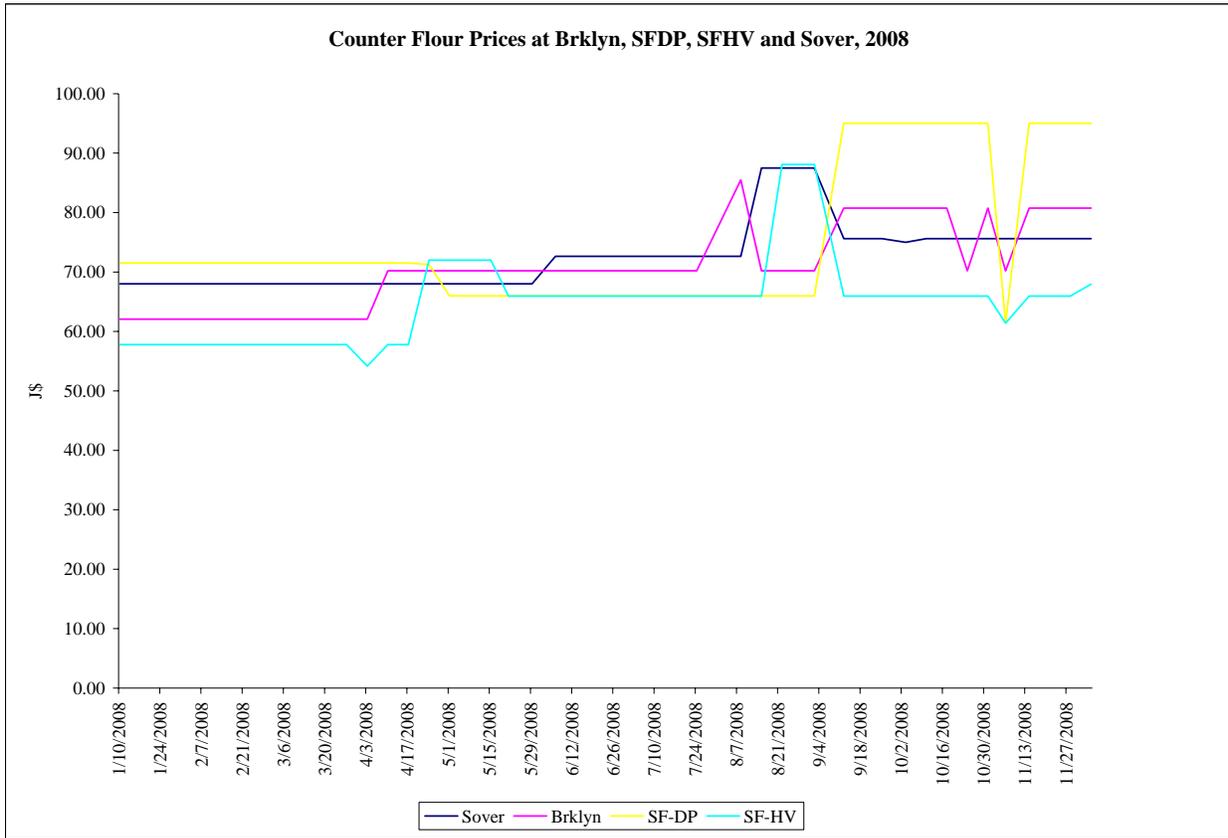
27. If you expect that the current **increase** in the demand for you food item is only temporary, what would be your

reaction?

a. ☐ Raise prices, while leaving the level of supply unchanged.

b. ☐ Increase the level of supply, while leaving prices at the same level.

c. ☐ Do nothing.

d. ☐ Others. Please explain. ---

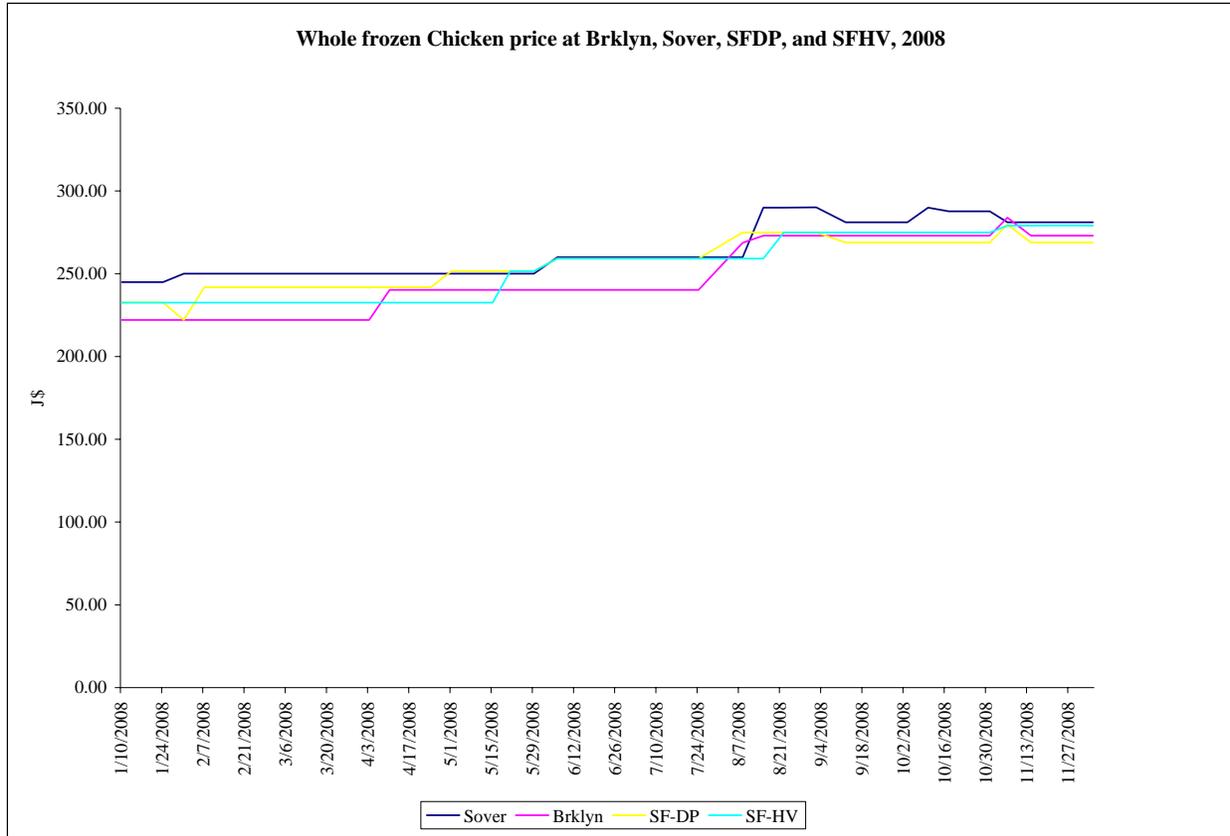**28**. If you expect that the current **decrease** in the demand for your food items is only temporarily, what would be

your reaction?

a. ☐ Lower prices, while leaving the level of supply unchanged.

b. ☐ Reduce the level of supply, while leaving the prices at the same level.

c. ☐ Do nothing.

d. ☐ Other. Please explain. --

APPENDIX A3

Counter Flour Prices at Brklyn, SFDP, SFHV and Sover, 2008

Note: Brklyn – Brooklyn Supermarket (Constant Spring Road), SFDP – Shoppers Fair (Duhaney Park), SFHV – Shoppers Fair (Harbour View), Sover – Sovereign Supermarket (Liguanea)

Whole frozen Chicken price at Brklyn, Sover, SFDP, and SFHV, 2008

Note: Brklyn – Brooklyn Supermarket (Constant Spring Road), SFDP – Shoppers Fair (Duhaney Park), SFHV – Shoppers Fair (Harbour View), Sover – Sovereign Supermarket (Liguanea)