



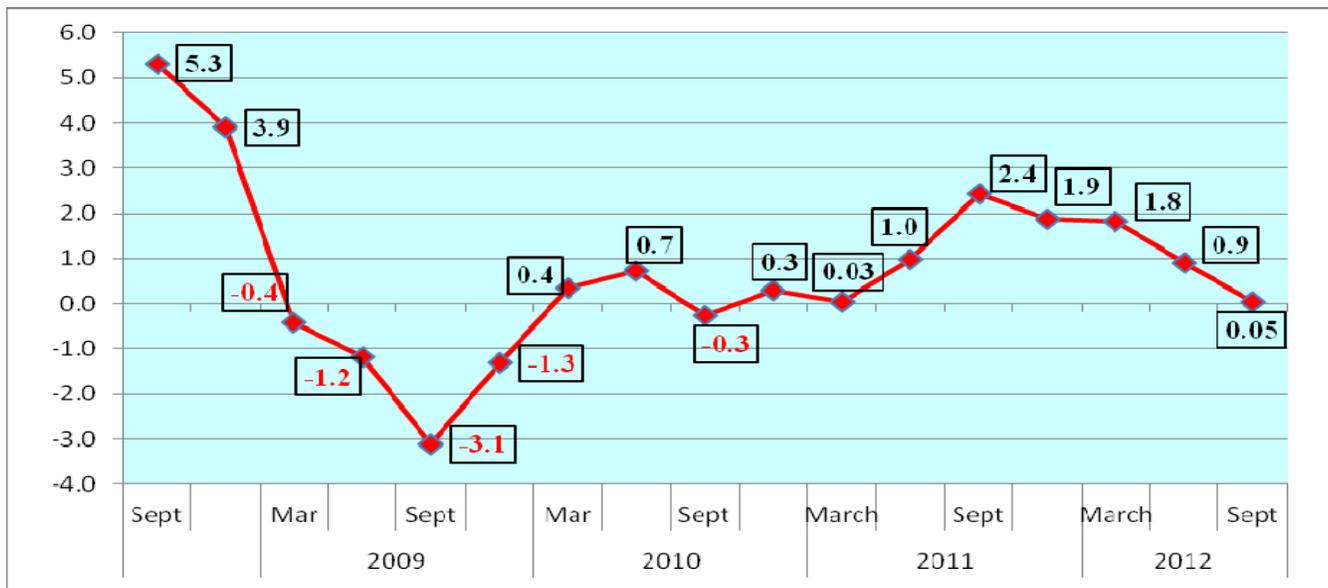
## THE CAYMAN ISLANDS' CONSUMER PRICE INDEX REPORT: September 2012

(Date of release: November 16, 2012)

### CPI increased by 0.05% in September 2012

The overall Consumer Price Index (CPI) stood at **100.9** in September 2012 which represents an increase of 0.05 percent in comparison to September 2011. The overall increase is mainly due to increases in the average prices of clothing and footwear, food and non alcoholic beverages, health and miscellaneous good and services.

**Figure 1: Inflation Rates (Sept 2008 - Sept 2012)**  
(% Change in CPI of Current Quarter over Same Quarter a Year Ago)



### Annual changes: September 2012 over September 2011

The September 2012 CPI increased by **0.05** percent compared to the September 2011 CPI as a result of increases in the price indices of the following major categories:

- **Clothing and footwear:** This index stood at 110.0, representing an increase of **8.9** percent due to higher average cost of clothing products (9.2%) and footwear (7.3%).
- **Food and non-alcoholic beverages:** the average price of this index increased **4.2** percent as all groups rose, led by fish and seafood (9.7%); oils and fats (7.6%); sugars, jam, honey, chocolate and confectionery (7.0%); and vegetables (6.5%).

- **Health:** the price index inched up by **2.9** percent due to price changes of hospital services (6.2%) and outpatient services (4.2%), amidst a 2.0 percent price decline for medical products, appliances and equipment.
- **Miscellaneous goods and services:** this price index went up by **2.6** percent which resulted mainly from increases for personal effects not elsewhere classified (11.4%), personal care goods and services (2.8%) and insurance (2.7%). Meanwhile, the price indices for social protection and financial services not elsewhere classified were stable while other services not elsewhere classified posted a slight decline (-1.8%).
- **Household equipment:** this division index increased by **1.0** percent, mainly due to an increase in the average cost of household textiles (5.6%) and goods and services for routine household maintenance (1.6%). Increases were also recorded for the average cost of tools and equipment for house and garden (1.1%) and furniture and furnishings (0.8%). The increase in the index was partially offset by declines in household appliances (3.7%) and glassware, tableware and household utensils (2.5%).
- **Education:** the overall price index stood at 106.4. This was **1.0** percent above the level in September 2011 due to increases in the average school fees of pre-primary and primary (1.1%) and secondary education (3.3%). Tertiary education fees were generally stable.
- **Alcohol and tobacco:** this price index rose marginally by **0.6** percent, as prices of tobacco products and alcoholic beverages rose on average by 0.8 percent and 0.5 percent respectively.

Meanwhile, the following divisions declined in September 2012 compared to September 2011:

- **Restaurants and hotels:** this price index declined by **6.2** percent, driven mainly by a 21.9 percent decrease in the average cost of accommodation services. Catering services also showed an average price decline of 3.5 percent.
- **Recreation and culture:** the price index moved down by **2.3** percent, due mainly to a 7.1 percent decrease in the average cost of other major durables for recreation and culture. Decreases were also recorded in the average cost of recreational and cultural services (-6.2%) and audio-visual, photographic and information processing equipment (-2.7%). The increases in newspaper (7.7%) and other recreational items and equipment, gardens and pets (1.4%) were not sufficient to offset the overall decrease.
- **Housing and utilities:** this price index registered a decrease of **1.7** percent year on year. This was due to the downward movement for the average cost of electricity, gas and other fuels (-5.5%). Decreases were also recorded for the cost of actual rentals for housing (-2.1%) and imputed rentals for owner-occupied housing (-1.6%). The decrease in the index was partially offset by rising average cost of maintenance and repairs of dwellings (4.0%).

- **Transportation:** this price index experienced a net decrease of **1.0** percent due to changes in the average cost of transport services (-3.4%) and operations of personal transport equipment (-0.8%). These declines were offset by an increase of 9.9 percent for the cost of vehicles purchased by consumers.
- **Communication:** this division's average price declined by 0.5 percent mainly due to a reduction in the prices for telephone and telefax services (-0.6%).

### Quarterly changes: September 2012 over June 2012

The September 2012 CPI slid by **0.6** percent compared to the June 2012 CPI as a result of decreases in the price indices of the following major categories:

- **Restaurants and hotels:** this price index moved downwards by **5.8** percent, driven by a decrease in the average cost of accommodation services (-13.8%) and catering services (-4.6%).
- **Transport:** the overall price index stood at 110.4. This was **3.2** percent below the level in June 2012 due to decreases in the average cost of transport services (-5.7%). Operation of personal transport equipment also posted a decrease by 2.6 percent mainly associated with fuel prices which fell by 4.3 percent as derived from the figures in Table 5.
- **Recreation and culture:** this price index dropped by **1.8** percent this quarter, resulting from recreational and culture services (-6.2%) and audio-visual, photographic and information processing equipment (-6.1%). On the other hand, there were increases in the average cost of other recreational items and equipment, gardens and pet services (4.3%) and other major durables for recreation and culture services (3.2%).
- **Housing and utilities<sup>1</sup>:** this price index, which accounts for approximately 40 percent of the CPI basket, declined by **1.0** percent. This was primarily due to the downward movement in the average cost of electricity, gas and other fuels (-3.0%), imputed rentals for owner-occupied housing (-0.8%) and maintenance and repair of dwelling (-0.6%). Actual rentals for housing, which accounts for about 8% of the CPI, also posted a mild decrease (0.3%).

Meanwhile, the following major categories showed increases:

- **Clothing and footwear:** this rose by **3.4** percent due to an increase in the average cost of clothing (3.5%) and footwear (2.7%).

<sup>1</sup> Also known as housing, water, electricity, gas and other fuels.

- **Household equipment:** this division index moved up by **1.4** percent, mainly due to increases in the average cost of household textiles (3.3%) and tools and equipment for house and garden (3.0%). Similarly, the average cost of goods and services for routine household maintenance increased by 2.1 percent. These were partially offset by decreases in the average cost of glassware, tableware and household utensils (-2.6%) and tools and equipment for house and garden (-3.7%).
- **Food and non-alcoholic beverages:** the index was higher by **1.4** percent resulting from a number of groups led by vegetables (6.2%), coffee, tea and cocoa (3.1%) and fish and seafood (2.1%), meat and meat products (1.7%), milk, cheese and eggs (1.4%) and bread and cereals (1.3%).
- **Health:** the price index increased by **1.4** percent due to an increase in the average cost of hospital services (3.1%) and outpatient services (1.9%) traced mainly to the private sector. In contract, there was a 1.0 percent average price decline for medical products, appliances and equipment.
- **Education:** the overall price index stood at 106.4. This was **1.0** percent above the level of the previous quarter due to increases in the average school fees of secondary education (3.3%) and pre-primary and primary education (1.1%), while the average fees for tertiary education remained stable over the quarter. Pre-primary, primary and secondary education at government schools is free for Caymanians, while Non-Caymanians pay a fee.
- **Miscellaneous goods and services:** the upward movement of this price index by **0.5** percent resulted mainly from increases for the price of personal effects not elsewhere classified (2.4%), personal care good and service (0.6%) and insurance (0.5%). This occurred amidst a decline in the average cost of other services not elsewhere classified by 0.6 percent.

The net average cost of items in the divisions alcohol and tobacco, and communication remained constant for the quarter ending September 2012 compared to June 2012.

**Table 1: Quarterly Consumer Price Index and Inflation Rates**

**JUNE 2008 = 100**

Year	Quarter Ending	INDEX	Percentage change in CPI:	
			3 months ago	1 year ago
2001	March	80.3	0.5	1.8
	June	80.5	0.2	1.8
	September	79.9	-0.7	0.3
	December	80.5	0.8	0.8
2002	March	82.0	1.9	2.1
	June	82.0	0.0	1.9
	September	82.3	0.4	3.0
	December	82.9	0.7	3.0
2003	March	82.2	-0.8	0.2
	June	82.5	0.4	0.6
	September	82.9	0.5	0.7
	December	83.4	0.6	0.6
2004	March	83.2	-0.2	1.2
	June	84.2	1.2	2.1
	September	85.7	1.8	3.4
	December	92.7	8.2	11.2
2005	March	92.7	0.0	11.4
	June	92.5	-0.2	9.9
	September	93.1	0.6	8.6
	December	92.7	-0.4	0.0
2006	March	91.9	-0.9	-0.9
	June	93.3	1.5	0.9
	September	94.4	1.2	1.4
	December	94.2	-0.2	1.6
2007	March	95.9	1.8	4.4
	June	96.3	0.4	3.2
	September	96.7	0.4	2.4
	December	95.8	-0.9	1.7
2008	March	99.2	3.5	3.4
	June	100.0	0.8	3.8
	September	101.8	1.8	5.3
	December	99.5	-2.3	3.9
2009	March	98.8	-0.8	-0.4
	June	98.8	0.1	-1.2
	September	98.7	-0.2	-3.1
	December	98.2	-0.5	-1.3
2010	March	99.1	0.9	0.4
	June	99.5	0.4	0.7
	September	98.4	-1.1	-0.3
	December	98.5	0.1	0.3
2011	March	99.2	0.7	0.03
	June	100.5	1.4	1.0
	September	100.8	0.3	2.4
	December	100.4	-0.4	1.9
2012	March	101.0	0.6	1.8
	June	101.4	0.5	0.9
	September	<b>100.9</b>	-0.6	0.05

**Table 2**  
**CAYMAN ISLANDS CONSUMER PRICE INDEX**  
 ANNUAL AVERAGES 1995 TO 2011  
 (June 2008 = 100)

YEAR	INDEX	Percentage change from a year ago
1995	66.7	
1996	68.4	2.5
1997	70.3	2.7
1998	72.4	3.0
1999	77.3	6.9
2000	79.4	2.7
2001	80.3	1.1
2002	82.3	2.5
2003	82.8	0.5
2004	86.5	4.5
2005	92.8	7.3
2006	93.5	0.8
2007	96.2	2.9
2008	100.1	4.1
2009	98.6	-1.5
2010	98.9	0.3
<b>2011</b>	<b>100.2</b>	<b>1.3</b>

**TABLE 3: CONSUMER PRICE INDICES AND INFLATION BY DIVISIONS AND GROUPS - THIRD QUARTER 2012**

Major Group	Weight	Index			Percentage Change	
		Sept-12	Jun-12	Sept-11	3 months Ago	1 year ago
<b>All Divisions - All items</b>	<b>1000.0</b>	<b>100.9</b>	<b>101.4</b>	<b>100.8</b>	<b>-0.6</b>	<b>0.05</b>
<b>01 Food &amp; Non Alcoholic Beverage</b>	<b>79.6</b>	<b>118.3</b>	<b>116.7</b>	<b>113.6</b>	<b>1.4</b>	<b>4.2</b>
Bread & cereals	9.9	116.5	115.0	110.4	1.3	5.5
Meat & meat products	10.4	118.6	116.6	116.0	1.7	2.2
Fish & seafood	4.2	124.2	121.7	113.2	2.1	9.7
Milk, cheese & egg	8.3	114.2	112.6	111.6	1.4	2.3
Oils & fats	2.0	109.2	109.2	101.4	0.0	7.6
Fruit	6.7	128.9	127.7	125.1	0.9	3.1
Vegetables	8.6	126.1	118.8	118.4	6.2	6.5
Sugars, jam, honey, chocolate & confectionery	5.5	119.4	119.2	111.6	0.2	7.0
Food products n.e.c.	5.6	113.5	112.9	109.3	0.6	3.8
Coffee, tea & cocoa	1.6	110.7	107.3	104.8	3.1	5.6
Mineral water, soft drinks, fruit & vegetable juices	16.9	114.7	115.4	112.4	-0.5	2.1
<b>02 Alcohol and Tobacco</b>	<b>6.5</b>	<b>116.2</b>	<b>116.2</b>	<b>115.5</b>	<b>0.0</b>	<b>0.6</b>
Alcohol	5.6	108.7	108.7	108.1	0.0	0.5
Tobacco	0.9	164.8	164.3	163.5	0.3	0.8
<b>03 Clothing and Footwear</b>	<b>34.3</b>	<b>110.0</b>	<b>106.4</b>	<b>101.0</b>	<b>3.4</b>	<b>8.9</b>
Clothing	29.5	109.0	105.3	99.8	3.5	9.2
Footwear	4.8	116.7	113.7	108.8	2.7	7.3
<b>04 Housing and Utilities</b>	<b>394.4</b>	<b>89.7</b>	<b>90.5</b>	<b>91.2</b>	<b>-1.0</b>	<b>-1.7</b>
Actual rentals for housing	78.7	79.6	79.8	81.3	-0.3	-2.1
Imputed rentals for owner-occupied housing	223.4	83.3	84.0	84.6	-0.8	-1.6
Maintenance and repair of dwelling	28.5	118.6	119.2	114.0	-0.6	4.0
Water supply and miscellaneous services	16.4	113.0	112.6	114.3	0.4	-1.1
Electricity, gas and other fuels	47.3	111.0	114.5	117.4	-3.0	-5.5
<b>05 Household Equipment</b>	<b>56.4</b>	<b>104.6</b>	<b>103.1</b>	<b>103.5</b>	<b>1.4</b>	<b>1.0</b>
Furniture and furnishings	5.7	104.8	103.4	103.9	1.3	0.8
Household textiles	1.1	118.3	114.4	111.9	3.3	5.6
Household appliances	2.8	102.8	105.5	106.7	-2.6	-3.7
Glassware, tableware and household utensils	2.8	134.7	139.9	138.1	-3.7	-2.5
Tools and equipment for house and garden	1.5	92.6	89.9	91.6	3.0	1.1
Goods and services for routine household maintenance	42.4	102.7	100.6	101.1	2.1	1.6
<b>06 Health</b>	<b>24.2</b>	<b>101.8</b>	<b>100.4</b>	<b>98.9</b>	<b>1.4</b>	<b>2.9</b>
Medical products, appliances and equipment	5.0	104.1	105.2	106.3	-1.0	-2.0
Outpatient services	17.9	100.2	98.3	96.2	1.9	4.2
Hospital services	1.4	114.3	110.9	107.6	3.1	6.2
<b>07 Transport</b>	<b>96.1</b>	<b>110.4</b>	<b>114.0</b>	<b>111.5</b>	<b>-3.2</b>	<b>-1.0</b>
Purchase of vehicles	6.1	112.7	107.7	102.6	4.7	9.9
Operations of personal transport equipment	57.4	114.8	117.8	115.7	-2.6	-0.8
Transport services	32.6	102.2	108.4	105.8	-5.7	-3.4
<b>08 Communication</b>	<b>69.7</b>	<b>103.6</b>	<b>103.6</b>	<b>104.1</b>	<b>0.0</b>	<b>-0.5</b>
Postal services	0.5	95.3	94.8	92.8	0.6	2.7
Telephone & telefax equipment	0.3	100.0	100.0	93.1	0.0	7.4
Telephone & telefax services	68.9	103.7	103.7	104.3	0.0	-0.6
<b>09 Recreation and Culture</b>	<b>40.5</b>	<b>96.9</b>	<b>98.6</b>	<b>99.2</b>	<b>-1.8</b>	<b>-2.3</b>
Audio-visual, photographic and information processing equipment	4.2	75.7	80.6	77.8	-6.1	-2.7
Other major durables for recreation and culture	3.4	93.7	90.9	100.9	3.2	-7.1
Other recreational items and equipment, gardens and pets	10.5	111.8	107.2	110.3	4.3	1.4
Recreational & cultural services	17.6	93.0	99.1	99.1	-6.2	-6.2
Newspapers, books and stationery	4.8	99.5	99.5	92.4	0.0	7.7
<b>10 Education</b>	<b>27.9</b>	<b>106.4</b>	<b>105.4</b>	<b>105.4</b>	<b>1.0</b>	<b>1.0</b>
Pre-primary and primary education	16.1	108.9	107.7	107.7	1.1	1.1
Secondary education	2.4	114.8	111.2	111.2	3.3	3.3
Tertiary education	9.4	100.0	100.0	100.0	0.0	0.0
<b>11 Restaurants and Hotels</b>	<b>40.2</b>	<b>108.6</b>	<b>115.3</b>	<b>115.7</b>	<b>-5.8</b>	<b>-6.2</b>
Catering Services	33.8	113.3	118.7	117.3	-4.6	-3.5
Accommodation Services	6.4	83.7	97.0	107.2	-13.8	-21.9
<b>12 Miscellaneous Goods and Services</b>	<b>130.2</b>	<b>108.3</b>	<b>107.7</b>	<b>105.6</b>	<b>0.5</b>	<b>2.6</b>
Personal care	26.5	112.2	111.6	109.2	0.6	2.8
Personal effects n.e.c.	7.7	120.5	117.8	108.2	2.4	11.4
Social protection	8.4	103.2	103.2	103.2	0.0	0.0
Insurance	74.8	105.5	105.0	102.8	0.5	2.7
Financial services n.e.c.	0.5	91.8	91.8	91.8	0.0	0.0
Other services n.e.c.	12.2	113.4	114.0	115.5	-0.6	-1.8

**Table 4: Consumer Price Index, Averages by Major Groups**  
 (JUNE 2008 = 100)

PERIOD / DIVISION	Food & Non-alcoholic beverages	Alcoholic Beverages & Tobacco	Clothing & Footwear	Housing and Utilities	Household Equipment	Health	Transport	Communication	Recreation & Culture	Education	Restaurants & Hotels	Miscellaneous Goods & Services	ALL ITEMS
<b>WEIGHT</b>	79.6	6.5	34.3	394.4	56.4	24.2	96.1	69.7	40.5	27.9	40.2	130.2	1000
<b>2009</b>													
MARCH	105.9	104.4	102.4	96.2	101.8	95.6	89.3	98.4	98.3	101.8	108.8	104.1	98.8
JUNE	106.9	104.6	102.4	95.2	101.6	96.3	90.8	101.6	98.5	102.0	107.1	104.3	98.8
SEPTEMBER	105.6	104.1	100.3	94.9	100.9	97.2	92.7	99.5	97.6	103.5	109.7	104.5	98.7
DECEMBER	105.1	104.7	99.9	93.8	100.5	97.1	93.2	102.7	96.7	103.5	109.2	103.1	98.2
<b>ANNUAL AVERAGE 2009</b>	105.9	104.5	101.2	95.0	101.2	96.6	91.5	100.5	97.7	102.7	108.7	104.0	98.6
<b>2010</b>													
MARCH	107.5	114.5	99.8	93.5	100.8	97.4	96.1	102.8	98.1	103.5	116.4	104.1	99.1
JUNE	110.6	115.3	102.1	93.1	102.9	97.7	97.4	102.7	97.5	103.5	113.6	105.0	99.5
SEPTEMBER	109.3	115.6	101.1	89.1	101.8	97.8	100.5	102.9	100.1	105.4	113.4	106.4	98.4
DECEMBER	108.6	115.1	101.1	89.2	101.7	97.8	101.8	102.1	99.7	105.4	113.3	107.1	98.5
<b>ANNUAL AVERAGE 2010</b>	109.0	115.1	101.0	91.2	101.8	97.7	98.9	102.6	98.9	104.5	114.2	105.6	98.9
<b>2011</b>													
MARCH	110.4	115.0	100.2	89.2	102.5	97.9	105.0	102.1	99.5	105.4	117.5	107.2	99.2
JUNE	112.4	115.7	100.9	90.4	102.2	99.1	110.3	105.4	99.4	105.4	115.5	107.4	100.5
SEPTEMBER	113.6	115.5	101.0	91.2	103.5	98.9	111.5	104.1	99.2	105.4	115.7	105.6	100.8
DECEMBER	114.7	115.7	102.2	90.1	103.3	98.9	110.7	104.4	99.3	105.4	112.8	106.0	100.4
<b>ANNUAL AVERAGE 2011</b>	112.8	115.5	101.1	90.3	102.8	98.7	109.4	104.0	99.3	105.4	115.4	106.5	100.2
<b>2012</b>													
MARCH	116.3	115.6	103.8	90.0	102.9	100.5	111.8	104.4	98.1	105.4	118.8	107.3	101.0
JUNE	116.7	116.2	106.4	90.5	103.1	100.4	114.0	103.6	98.6	105.4	115.3	107.7	101.4
SEPTEMBER	118.3	116.2	110.0	89.7	104.6	101.8	110.4	103.6	96.9	106.4	108.6	108.3	100.9
<b>% CHANGE PREV YEAR</b>	4.2	0.6	8.9	-1.7	1.0	2.9	-1.0	-0.5	-2.3	1.0	-6.2	2.6	0.05
<b>% CHANGE PREV QTR</b>	1.4	0.0	3.4	-1.0	1.4	1.4	-3.2	0.0	-1.8	1.0	-5.8	0.5	-0.6

**TABLE 5: AVERAGE PRICES OF SELECTED ITEMS**  
**Quarter Ending September 2012**

Item	Quantity	Average Prices (C/\$)		
		Sept-11	June-12	Sept-12
Loaf - Harddough	2 lb	3.57	3.61	3.61
Long Grain Rice	5 lb	2.47	2.51	2.51
Cornflakes (original)	24 oz	5.06	4.92	4.92
Stew Beef	per lb	4.04	4.07	3.93
Bacon	12 oz	4.34	4.24	4.24
Snapper Fillets (frozen)	per lb	9.16	10.26	10.52
Canned Tuna in water	6 oz	1.46	1.61	1.64
Eggs (Grade A Large)	1 doz	2.44	2.41	2.52
Margarine -Shedds Spread	45 oz	5.12	5.94	5.94
Fresh Milk (McArthur - Regular Vitamin D)	1 gal	6.19	6.16	6.19
Evaporated milk (Nestle Carnation)	14 oz	1.24	1.32	1.36
Vegetable Oil	24 oz	3.84	4.36	4.26
Plantain	per lb	0.89	1.01	1.05
Potatoes - Irish	per lb	1.21	0.98	0.94
Lettuce - Iceburg	each	2.01	2.42	2.50
Potatoes - Sweet	per lb	2.46	2.41	2.49
Tomatoes - Slicing	per lb	2.52	2.33	2.68
Ripe Bananas	per lb	0.89	0.98	0.99
Apple - Golden Delicious	per lb	2.31	2.41	2.49
Grapes - Red-Seedless	per lb	3.75	4.28	3.92
Tea (Lipton - Decaffienated)	48 bags	3.79	3.81	3.81
Coffee - Instant -Classic Roast - Bottle	8 oz	6.94	7.09	7.09
Soda	12 oz	0.70	0.70	0.73
Sugar - Light Brown (Bag)	2 lb	2.07	2.38	2.38
Corned Beef - regular	340 g	3.42	3.73	3.74
Iodized Salt	26 oz	0.97	0.92	0.92
Petrol - Regular Full Service	per gal	5.70	5.82	5.52
Petrol - Premium Full Service	per gal	5.80	5.92	5.67
Diesel - Full Service	per gal	5.76	5.88	5.67

## NOTES ON THE INDEX COMPILATION

### 1. Data collection

This report uses the 2008 CPI basket based on the results of the 2007 Survey of Living Conditions/Household Budget Survey (HBS) as updated in June 2008. The goods and services in the basket are classified into twelve (12) divisions using the United Nations' Classification of Individual Consumption According to Purpose (COICOP). In all, there are 1,393 items (7th-digit COICOP level) included in the basket collected from 147 providers/outlets in Grand Cayman, classified as follows:

#### Number of Items in the 2008 CPI Basket

##### Division

1	Food and non-alcoholic beverages	47
2	Alcoholic beverages and tobacco	5
3	Clothing and footwear	13
4	Housing, utilities and fuels	6
5	Furnishings, household equipment and routine household maintenance.	19
6	Health	4
7	Transport	7
8	Communication	4
9	Recreation and Culture	6
1	Education	1
1	Restaurants and hotels	13
1	Miscellaneous goods and services	9

**Total**

**1,393**

ESO also adopted new collection periods and price averaging methodologies in accordance with updated international standards and as advised by the Caribbean Technical Assistance Centre (CARTAC). Beginning in the fourth quarter of 2009, price data for all items are collected every second month of the quarter (whereas they were previously collected every third month). Prices of selected items that are vulnerable to monthly changes such as vegetables and fruits, fish and meat, and gas are now also collected on a monthly basis. Prices across outlets are averaged using the geometric mean formula to reduce the impact of extreme or outlier prices (please see below).

### 2. CPI formula

The CPI is computed using Lowe's formula. The Lowe indices is one of the widest and popular class of price indices which is obtained by defining the index as the percentage change, between the periods compared, in the total cost of purchasing a given set of quantities, generally described as a "basket".<sup>2</sup> The Lowe index,  $PLo$ , is defined as follows<sup>3</sup>:

<sup>2</sup> ILO (2004, p. 2). Consumer price index manual

<sup>3</sup> Ibid, p.3

$$P_{Lo} = \frac{\sum_{i=1}^n p_i^t q_i}{\sum_{i=1}^n p_i^0 q_i}$$

Where n = number of products in the basket with prices  $p_i$  and quantities  $q_i$   
 0 = base period  
 t = later period being compared

### Geometric mean

The price  $p = [p_1, p_2, \dots, p_n]$  for each item from different outlets is the average of prices of the outlets using geometric mean or the formula:

$$p = \left( \prod_{i=1}^n p_i \right)^{1/n} = \sqrt[n]{p_1, p_2, \dots, p_n}$$

**Inflation:** this refers to the percentage change in the Consumer Price Index from one period to another. Typically, this period would be a year or a quarter.

**Annual Inflation Rate:** the percentage change of the CPI in the quarter under review over the CPI of the same quarter a year ago. This is also known as **year-on-year inflation rate**.

**Quarterly Inflation Rate:** the percentage change of the CPI in the quarter under review over the immediate previous quarter. This is also known as **quarter-on-quarter inflation rate**.