



Background

Over the past year the Statistics Division in the Ministry of Finance and Corporate Governance has undertaken an activity to update the Consumer Price Index (CPI). This is important to ensure the quality of the CPI for a wide variety of data users to facilitate informed decision making and policy formulation. Also, to the sub-region, as to enable the harmonization of the CPI. The Statistics Division incorporated the concepts and methodologies recommended in the 2004 CPI Manual and implemented a new CPI data processing system

What is the CPI?

The Consumer Price Index (CPI) is a statistical indicator of the relative changes in the general level of prices of a fixed basket of consumer goods and services purchased by private households to meet their day-to-day needs. The CPI provides an estimate of the price change between any two periods. The percentage change between the CPIs for two periods indicates the degree to which prices changed between the two periods.

The CPI follows the prices of a basket of items in various categories of consumer spending. The quantity and quality of the goods and services in the basket remain the same through the life of the basket. Changes in the cost of the basket over time are not due to changes in the quantity and/or quality of the goods and services; they are due purely to movements in price. In the real world, however, the quality of goods is continually changing, as newer models and varieties replace earlier ones. Hence there is a need to review and update the basket periodically.

The Statistics Division (SDAB), with technical assistance from Statistics Canada under the Project for the Regional Advancement of Statistics in the Caribbean (PRASC), has compiled the CPI time series based on the Classification of Individual Consumption according to Purpose structure (COICOP) by recalculating the index using the COICOP structure to 2018.

With the release of the February 2019 CPI, the Statistics Division has undertaken several updates to the computation of the CPI.

1. There were no significant changes to the formulas used to compute the CPI.
 - at the lower level, item variety relatives are aggregated to elementary aggregate indexes using a geometric mean, as was done previously
 - at the upper level, elementary aggregate indexes are aggregated to published aggregates using a weighted arithmetic mean (a Young index), as was done previously
2. There is a new classification of goods and services.
 - SDAB has adopted the Classification of Individual Consumption according to Purpose (COICOP) to divide All Items into sub-indices (See Table 1)
 - the overall scope of All Items covers the same set of goods and services as in previous months, but now with COICOP the elementary aggregates are grouped in different ways
 - this hierarchy is used by many national statistical agencies, which facilitates comparisons of sub-indices across countries
 - The total number of goods and services increased from 398 to 466

3. There are new basket weights.

- the weight reference period has been updated from 2001 to 2006
- the new weights are now based on the 2006 Household Budget Survey (See Table 2)
- a basket update provides the opportunity to make the relative importance of basket categories reflective of more current consumer preferences
- this will lead to a more accurate CPI

4. There are different items collected.

- several new items are collected for inclusion in the CPI that were not collected previously, for example *Telephone and Internet data, Accommodation abroad, Medical and Health Insurance*
- Several obsolete items are no longer collected for the CPI, for example *Pork Roast, Candy local, Mortgage payments.*
- the selection of new items and removal of old ones will make the CPI more representative of consumer behavior

5. There is a new index time reference.

- the index time reference, i.e. the period at which the index equals 100, has been updated from 200101=100 to 201901 = 100 (Jan 2001 = 100 to Jan 2019 = 100)
- the previous basket was reconstructed and linked to the new COICOP basket in such a way as to preserve the index trends previously published from 201802 to 201901

6. New computation software is being used.

- SDAB is now using “CPI+”, a software to define metadata, capture prices and weights and compute indices
- CPI+ is a robust system with additional features to simplify basket updates, select appropriate edit and imputation techniques and enhance the capability to perform quality assurance
- Some of the techniques utilised by CPI+:
 - Imputations of missing prices using the price change of the related item
 - Detection of outliers
 - Quality adjustments of prices to reflect pure price change
 - Reduce the element for human error

Conclusion

The rebased CPI will significantly enhance compilation of inflation rates by allowing for more outlet coverage, updated spending patterns, new COICOP divisions, more priced items, automated compilation of indices and the use of geometric averaging. With these enhancements, the CPI will be a better indicator of the changes in the general level of prices of consumer goods and services purchased by private households in Antigua and Barbuda.

Table 1: Classification of Individual Consumption according to Purpose (COICOP)

COICOP Division	Category examples
01 FOOD AND NON-ALCOHOLIC BEVERAGES	breakfast cereal, milk, coffee, chicken
02 ALCOHOLIC BEVERAGES AND TOBACCO	wine, beer, cigarettes
03 CLOTHING AND FOOTWEAR	men's shirts and pants, women's dresses and blouses, shoes
04 HOUSING, WATER, ELECTRICITY, GAS, AND OTHER FUELS	rent of primary residence, owners' equivalent rent, electricity
05 FURNISHINGS AND HOUSEHOLD SUPPLIES	bedroom and living room furniture, detergents, cleaning supplies
06 HEALTH	prescription drugs and medical supplies, physicians' services, eyeglasses and eye care, hospital services
07 TRANSPORT	new vehicles, airline fares, gasoline, motor vehicle insurance
08 COMMUNICATION	postage, telephone services, cellular phones and service
09 RECREATION AND CULTURE	televisions, computers, software and accessories toys, pets and pet products, sports equipment, admissions
10 EDUCATION	primary, secondary, and college tuition and fees
11 RESTAURANTS AND HOTELS	full-service meals at restaurants and cafes, snacks, lodging
12 MISCELLANEOUS GOODS AND SERVICES	haircuts and other personal services, cosmetics, watches and jewelry, legal and funeral expenses

NB: The categories are arranged into the 12 Divisions and examples of the categories in each Division are also given

Table 2: Comparison between Previous and New CPI Weights

<i>Description</i>	Previous Weight Jan. 2001=100	New Weight Jan. 2019 =100
Food and Non-Alcoholic Beverages	194.99	179.4
Food	171.8	158.50
<i>Bread and Cereals</i>	42.5	26.3
<i>Meat and Meat Products</i>	31.8	26.0
<i>Fish and Seafood</i>	16.4	19.1
<i>Milk, Cheese and Egg</i>	18.5	14.1
<i>Oil and Fats</i>	7.1	4.8
<i>Fruits</i>	8.8	10.3
<i>Vegetables</i>	24.2	38.7
<i>Sugars, Jam, Honey, Chocolate and Confectionery</i>	9.9	6.7
<i>Food Products N.E.C.</i>	12.6	12.5
Non-Alcoholic Beverages	23.2	20.9
<i>Coffee, Tea and Cocoa</i>	3.3	1.5
<i>Mineral, Water, Soft Drinks, Fruit and Vegetable Juices</i>	19.9	19.3
Alcoholic Beverages, Tobacco and Narcotics	1.6	20.2
Alcoholic Beverages	1.4	14.9
<i>Spirits</i>	0.6	3.0
<i>Wine</i>	0.4	4.2
<i>Beer</i>	0.5	7.6
Tobacco	0.2	5.2
Clothing and Footwear	98.5	36.0
Clothing	71.5	28.3
<i>Clothing materials</i>	5.0	1.3
<i>Garments</i>	65.7	22.4
<i>Other articles of Clothing and Clothing Accessories</i>	0.8	4.5
Footwear	27.0	7.7
Housing, Water, Electricity, Gas and Other Fuels	264.2	280.6
<i>Actual rentals for housing</i>	141.6	198.1
<i>Maintenance and repairs</i>	34.5	17.6
<i>Water supply and miscellaneous services relating to dwelling</i>	24.1	11.4
<i>Electricity, Gas and other fuels</i>	63.9	53.5
Furnishings, Household equipment and routine household maintenance	115.6	68.4
<i>Furniture and furnishings, Carpets and other floor coverings</i>	44.3	19.5
<i>Household Textiles</i>	8.3	4.3
<i>Household Appliances</i>	22.9	6.6
<i>Glassware, Tableware and Household Utensils</i>	0.5	1.7
<i>Tools and equipment for House and Garden</i>	0.5	1.6
<i>Good and Services for routine Household Maintenance</i>	39.0	34.6

<i>Description</i>	Previous Weight Jan. 2001=100	New Weight Jan. 2019 =100
Health	26.9	13.7
<i>Medical products, Appliances and Equipment</i>	16.9	5.1
<i>Outpatient</i>	10.0	8.6
Transport	129.1	151.1
<i>Purchase of Vehicles</i>	92.8	40.2
<i>Operations of Personal Transport Equipment</i>	28.8	60.0
<i>Transport Services</i>	7.4	51.00
Communication	14.2	87.00
Recreation and Culture	26.7	32.3
Education	17.8	14.4
Restaurant and Hotels	19.3	41.5
<i>Catering Services</i>	19.3	21.2
<i>Accommodation Services</i>	n/a	20.3
Miscellaneous goods and Services	91.1	75.3
<i>Personal Care</i>	47.4	22.5
<i>Personal Effects (not elsewhere classified)</i>	13.5	4.6
<i>Social Protection</i>	n/a	6.6
<i>Insurance</i>	30.3	32.1
<i>Other Services (not elsewhere classified)</i>	n/a	9.5

NB: n/a = not applicable