

### Consumer Price Index, base period December 2006 January 2009

*The Central Bureau of Statistics presents the most important findings for the Consumer Price Index (CPI) for the month of January 2009.*

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The Central Bureau of Statistics (CBS) has recently made a series of improvements to keep the measures on changes in consumer prices as accurate and up to date as possible. Effective January 1, 2009, the following important changes in the calculation of the CPI have been implemented. Subsequently, the CPI for 2007 and 2008 have been revised.

#### **Introduction of a new classification system**

The classification system used by household expenditure surveys provides the necessary framework for the various stages of the CPI compilation. It provides a structure for purposes of weighting and aggregation, and also a basis for stratifying the samples of products whose prices are collected. The goods and services covered by a CPI may be classified in several ways: not simply on the basis of their physical characteristics but also by the purposes they serve and the degree of similarity of their price behavior. Product-based and purpose-based classifications differ but can usually be successfully mapped onto each other. In practice, most countries use a hybrid classification system in which the breakdown at the highest level is by purpose while the lower-level breakdowns are by product type. This is the case for the recently revised internationally agreed Classification of Individual Consumption according to Purpose (COICOP), which provides a suitable classification for CPI purposes.

For comparison reasons, CBS has decided to change from a national classification system to COICOP, which is an internationally agreed classification system for consumer expenditure and prices. The first level of classification in COICOP consists of 12 divisions covering total consumption expenditures of households. As previously noted, the breakdown into divisions is essentially by purpose. At the second level of disaggregation, the 12 divisions are divided into 47

groups of products, which are in turn divided into 114 classes of products at the third level. These 114 classes are divided in 452 elementary aggregates.

#### **Revised weights for the elementary aggregates of the CPI**

From time to time, the weights for the elementary aggregates have to be revised to ensure that they reflect current expenditure patterns and consumer behavior. Reweighting is inevitable sooner or later, as the same weights cannot continue to be used for ever.

As of January 2007, the expenditure weights will be based on the Household Expenditure Survey held by CBS during the months of April and May of 2006.

#### **New base period**

In order to calculate consistent annual rates of change with the new classification, the CPI has to be calculated retrospectively for 2 years. Therefore, December of 2006 has been chosen as the new base period for the CPI. Subsequently, the CPI figures for 2007 and 2008 have been revised accordingly.

#### **Incorporating the geometric mean formula**

The use of the geometric mean estimator at the basic level of index calculation in the CPI is expected to produce an overall index that better reflects the impact that changing prices have on the average consumer.

Based on the above mentioned and in line with improvements in the calculation of the CPI at other Statistical Offices, such as the U.S.A, CBS has decided to use, as of January 1, 2009, the geometric mean formula, instead of the formerly used arithmetic average, to calculate the basic components of the CPI.

## Overview Consumer Price Indices

Jan-08	Dec-08	Jan-09
110.98	107.88	107.44

- The Consumer Price Index (CPI) for January 2009 is **107.44**, a decrease of **0.41%** compared to the index of December 2008 (**107.88**).
- The percentage change of the CPI over the last 12 months (January 2008 and January 2009) is -3.19, a decrease of 12.32 percentage points (ppts) compared to the percentage change for the same period of last year (9.13).
- The period average percentage change of the CPI for the period January 2008 - January 2009 is 7.88, an increase of 2.05 ppts compared to the period average percentage change over the period January 2007 - January 2008 (5.83).

Table 1 Overview percentage change CPI

Period		2009	2008 <sup>3</sup>
Current month	Dec-Jan	-0.41	0.96
Year-to-date	Dec-Jan	-0.41	0.96
Last 12 months <sup>1</sup>	Jan-Jan	-3.19	9.13
Last 24 months <sup>2</sup>	Jan-Jan	7.88	5.83

Source: Central Bureau of Statistics Aruba

<sup>1</sup> End of period inflation

<sup>2</sup> Period average inflation

<sup>3</sup> Please note: 2008 has been revised

In January 2009 the sectors that show the highest percentage changes in the CPI are:

CPI	-0.41
• Transport	-3.41
• Recreation and culture	-0.77
• Household operation	0.64
• Miscellaneous goods and services	0.73
• Clothing and footwear	1.18

Table 2 Percentage change by sector

Sector	Weight coefficient	Monthly Jan	Percentage changes		
			Year to date Dec - Jan	End of period Jan 08 - Jan 09	Period average Jan 08 - Jan 09
<b>Consumer Price Index</b>	<b>10,000</b>	<b>-0.41</b>	<b>-0.41</b>	<b>-3.19</b>	<b>7.88</b>
01. Food and non-alcoholic beverages	1,125.3	-0.01	-0.01	11.26	11.29
02. Alcoholic beverages and tobacco	81.9	0.25	0.25	2.86	3.06
03. Clothing and footwear	625.9	1.18	1.18	0.25	6.80
04. Housing	2,553.3	0.26	0.26	-14.79	10.82
05. Household operation	741.3	0.64	0.64	3.97	3.89
06. Health	235.8	0.21	0.21	4.00	13.20
07. Transport	1,815.4	-3.41	-3.41	-7.03	9.89
08. Communications	706.3	0.00	0.00	-0.71	-0.49
09. Recreation and culture	891.2	-0.77	-0.77	1.61	4.13
10. Education	83.0	0.00	0.00	-1.65	7.16
11. Restaurants and hotels	373.7	0.05	0.05	8.38	2.99
12. Miscellaneous goods and services	767.0	0.73	0.73	2.83	3.34

Source: Central Bureau of Statistics Aruba

## Monthly Percentage Change

The consumption basket of the CPI consists of 452 goods and services. Compared to December 2008, 45.4% of these products had an increase in price, while 14.8% showed a decrease and the remaining 39.4% had no change in price.

The prices of all products (goods and services) in the consumption basket of the CPI show a decrease of **0.41%** for the month of January 2009 compared to the prices observed in December 2008.

The prices of goods decreased by 0.53% and caused an influence of -0.34 pts on the percentage change of the CPI. The prices of services show also a decrease (-0.18%) and had an influence of -0.07 pts on the CPI.

**Table 3 Overview percentage change and effect on the CPI of January 2009 by type of products**

Period	Index		Monthly change	Effect
	Dec-08	Jan-09		
Total	107.88	107.44	-0.41	-0.41
Goods	110.93	110.35	-0.53	-0.34
Services	102.73	102.54	-0.18	-0.07

Source: Central Bureau of Statistics Aruba

In January 2009, the sectors that had the greatest influence in the percentage change of the CPI are:

- Transport (-0.59), where decreases in prices were registered in the categories "Operation of personal transport equipment" and "Transport services".
- Recreation and culture (-0.07), where a decrease in prices was registered in the category "Holidays".
- Clothing and footwear (0.08), where an increase in prices was registered in the category "Clothing".

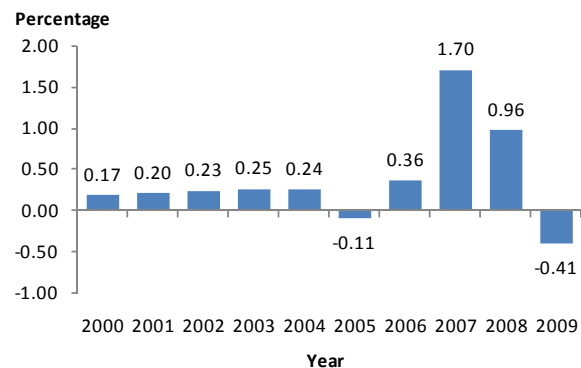
- Housing (0.07), where increases in prices were registered in the categories "Actual rentals for housing" and "Maintenance and repair of the dwelling".
- Miscellaneous goods and services (0.05), where an increase in prices was mainly registered in the category "Personal effects n.e.c."

**Table 4 Categories with the greatest effect on the CPI of January 2009**

Category	Monthly change	Effect
Operation of personal transport equipment	-6.52	-0.53
Holidays	-14.50	-0.10
Transport services	-4.54	-0.06
Personal effects n.e.c.	3.21	0.02
Maintenance and repair of the dwelling	0.51	0.02
Recreational and cultural services	0.79	0.02
Actual rentals for housing	0.45	0.04
Clothing	1.23	0.07

Source: Central Bureau of Statistics Aruba

**Graph 1 Monthly percentage change of the CPI for January, 2000 - 2009**



Graph 1 shows that the monthly percentage change of the CPI decreased by 1.37 pts to -0.41 in January of 2009 from (0.96) in January of 2008.

**Table 5 Percentage changes by month, 2007 - 2009**

Month	Percentage changes											
	2007				2008				2009			
	Monthly	Year-to-date	End of period	Period average	Monthly	Year-to-date	End of period	Period average	Monthly	Year-to-date	End of period	Period average
January	1.70	1.70	3.88	3.58	0.96	0.96	9.13	5.83	-0.41	-0.41	-3.19	7.88
February	-0.20	1.49	2.94	3.44	0.47	1.44	9.87	6.41				
March	0.82	2.32	3.95	3.41	0.68	2.13	9.72	6.89				
April	0.28	2.60	3.72	3.41	0.58	2.73	10.05	7.42				
May	1.16	3.79	3.67	3.38	0.94	3.70	9.82	7.93				
June	2.26	6.14	5.70	3.52	1.78	5.54	9.30	8.23				
July	-0.43	5.68	5.04	3.62	1.70	7.33	11.64	8.79				
August	0.90	6.63	5.53	3.73	1.82	9.29	12.66	9.39				
September	-0.39	6.22	5.11	3.82	-0.58	8.66	12.45	10.00				
October	0.54	6.79	6.83	4.25	-0.85	7.74	10.90	10.33				
November	1.32	8.20	8.29	4.78	-4.61	2.77	4.40	9.98				
December	1.59	9.92	9.92	5.39	-4.51	-1.86	-1.86	8.96				

Source: Central Bureau of Statistics Aruba

Please note: 2007 and 2008 have been revised

### Revised figures for 2007 and 2008

As mentioned above, CBS has made some improvements in the calculation of the CPI. As a result of using new weights in the calculation of the CPI, the figures for 2007 and 2008 have been revised. Table 5 shows these revised figures and the percentage changes for January 2009.

Table 6 presents an overview of the formerly calculated figures and the revised figures for the CPI for December 2007 and 2008. For December 2008, the revised end of period inflation is lower than the formerly calculated inflation while the period average inflation is higher than was formerly calculated. The revised figures for December 2007 show that the end of period and the period average inflation are lower than the formerly calculated figures.

**Table 6 Overview of former & revised figures for December, 2007 - 2008**

Period	2007	2008
<b>Former figures, 2007 - 2008</b>		
End of period	10.21	-1.04
Period average	6.00	8.00
<b>Revised figures, 2007 - 2008</b>		
End of period	9.92	-1.86
Period average	5.39	8.96

Source: Central Bureau of Statistics Aruba

**Table 7 Prices of crude oil, utilities and gasoline, 2008 - 2009**

Month	2008						2009					
	Crude oil <sup>1</sup>	Fuel surcharge <sup>2</sup>	Electricity <sup>3</sup>	Water <sup>4</sup>	Gasoline <sup>5</sup>	Diesel	Crude oil	Fuel surcharge	Electricity	Water	Gasoline	Diesel
January	89.87	28.00	317.21	156.66	210.90	192.70	39.93	14.20	217.09	116.13	141.40	128.10
February	90.82	28.00	317.21	156.66	213.10	191.60						
March	100.46	28.00	317.21	156.66	217.70	200.30						
April	104.95	28.00	317.21	156.66	227.10	221.00						
May	117.13	28.00	317.21	156.66	240.40	231.00						
June	128.06	30.43	334.84	167.98	256.70	251.30						
July	133.52	33.48	356.97	176.85	266.20	257.90						
August	115.86	38.55	393.75	188.52	259.70	256.50						
September	98.52	36.52	379.02	187.21	247.30	225.70						
October	73.95	32.46	349.57	174.22	256.60	216.70						
November	50.90	24.35	290.73	147.38	185.80	175.30						
December	39.71	14.20	217.09	116.13	156.80	153.80						

Source: Central Bureau of Statistics Aruba

<sup>1</sup> Average world crude oil price per barrel in US\$ (Source: U.S. Energy Information Administration)

<sup>2</sup> Fuel surcharge in Afl cents per kWh

<sup>3</sup> Electricity price in Afl is based on an average household usage of 725.5 kWh (Revised figures)

<sup>4</sup> Water price in Afl is based on an average household usage (Revised figures)

<sup>5</sup> Gasoline and diesel prices in Afl cents per liter

## Change in prices of crude oil, utilities and gasoline in January 2009

The prices of utilities (electricity and water supply), gasoline and diesel are for the greater part determined by international crude oil prices. After reaching a record-high average price in July 2008 (US\$ 133.52) the average world crude oil price per barrel had been declining for 5 months in a row, until January 2009 when it registered a minor increase of US\$ 0.22.

Fuel surcharge did not change in January, it stayed at Afl 14.20 cents per kWh. The price of electricity and water did not change either compared to December 2008. The average electricity price remained at Afl 217.09, while the price of water remained at Afl 116.13.

The price of gasoline shows a decrease for the third consecutive month. In January 2009 it decreased by Afl 0.15 (9.82%) causing an effect of -0.48 ppts on the CPI. The price of diesel has been decreasing since the month of August 2008. Compared to December 2008 it decreased by Afl 0.26 (16.71%) causing an effect of -0.05 ppts on the CPI.

In January 2009, utilities, gasoline and diesel as a group show a decrease in prices of 3.31% compared to December 2008, and had an influence of -0.53 ppts on the CPI, while the remaining 448 elementary aggregates, as a group, experienced an increase in prices of 0.15%, causing an effect of +0.12 ppts on the CPI.

**Table 8 Effect on the CPI of January 2009 of elementary aggregates which are dependent on crude oil prices**

Category	Weight	Monthly change	Effect
Electricity	721.0	0.00	0.00
Gasoline	530.6	-9.82	-0.48
Water supply	437.4	0.00	0.00
Diesel	21.8	-16.71	-0.05
Total group	1,710.8	-3.31	-0.53
Remaining aggregates	8,289.2	0.15	0.12
Total Index	10,000.0	-0.41	-0.41

Source: Central Bureau of Statistics Aruba