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རྒྱལ་ཡོངས་ཚུལ་དམུག་བཞུགས་འཛིན་



NATIONAL STATISTICS BUREAU



**CONSUMER PRICE INDEX (CPI) FOR
QUARTER ENDING 31st MARCH 2012**

**NATIONAL ACCOUNTS
&
PRICE DIVISION**

Catalogue No. 103

1st Qtr 2012

In computing the CPI, the formula is modified as:

$$CPI = \frac{\sum \frac{P_1}{P_0} (P_0 Q_0)}{\sum P_0 Q_0} \times 100$$

Where:

P_1 and Q_0 are as described above.

$\frac{P_1}{P_0}$ is the price relative (PR)

The price relative is computed for each of the specifications. It is the current average price divided by the base year average price times 100. It is the simplest form of index number.

Indices at the 4-digit group level are computed as the simple average of the price relative belonging to the group.

Indices at the 3-digit group level are computed as the weighted average of the 4-digit group indices belonging to that group. Like wise, similar formula is used for 2-digit and 1-digit group.

The overall index is then computed by using the weighted average of the indices of the 12 major group items.

9 Survey Forms

The following are the survey forms for collection of retail prices of commodities and services:

1. Form CPI 1 = Agricultural Products.
2. Form CPI 2 = Fresh Fish and Meat.
3. Form CPI 3 = Processed Food and Non-alcoholic Beverages.
4. Form CPI 4 = Alcoholic Beverages, Cigarettes and non- food.
5. Form CPI 5 = Fuel, Electricity, Transportation, Communication & School Fees.
6. Form CPI 6 = Monthly Rentals.

10 Index Construction

The average prices of commodities and services, based on price surveys, are computed for each product. This is the sum total of all the prices for particular items divided by the number of quotations. The formula used in computing CPI is the weighted arithmetic mean of price relatives, a variant of the Laspeyres formula with fixed base period weights. It is expressed as:

$$Index = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \times 100$$

P_1 = Current Period Price.

P_0 = Base Period Price.

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FOREWORD

National Statistics Bureau (NSB) is pleased to release the 1st quarter **Consumer Price Index** (CPI) Bulletin for the quarter ending 31st March 2012.

As usual, this Bulletin reports on changes in the average retail price of a fixed basket of consumer goods and services purchased by Bhutanese households for personal consumption. This is the 35th Series of CPI Bulletin published by the Bureau.

The current Bulletin is constructed using the 3rd Qtr. 2003 as the base year, and covers the price movements of 363 commodities and services observed in 23 major urban areas. Prices of agricultural products are collected monthly, while the prices of other commodities and services are collected on a quarterly basis.

NSB would like to thank all agencies and stakeholders involved in providing data for publication of this Bulletin.

April 2012

National Statistics Bureau

Thimphu: Bhutan

7. Sample Outlets

Sample outlets are establishments or retail outlets from which prices of commodities/services are collected or quoted. These include shops, footwear stores, tailoring shops, hotel bars, hairdressers, etc. Retail outlet centers are selected based on a set of criteria viz. location, popularity of the establishment along the line of goods sold, consistency and completeness of stock and permanency of the outlet.

8. Pricing Period and Procedures

The accuracy of any statistics depends on the reliability of the basic information collected. This is especially true for CPI. While it is necessary to have reliable weighting systems and compilation methods, collecting the basic price information in an accurate and methodical fashion is equally important. Prices of all agricultural items, being more volatile in nature, are collected monthly, that is, on the 1st Saturday of the month. Prices of all other items are gathered during the first week of the 2nd month of every quarter.

School fees and related charges are collected once a year, that is, at the start of the academic year and is used for all succeeding quarters until the next academic year. Price collection is done by our District Statistical Officers (DSO) through personal visits to retail outlets.

5. Weights

The weights denote the relative importance of each index item in the total index. CPI weighting patterns, as well as the market basket, are typically constructed using household expenditure or living standard survey data. Item-wise income and expenditure details of households are crucial for CPI weighting purposes. The current CPI weights are as per the ***Bhutan Living Standard Survey (BLSS)***, conducted by NSB in 2003.

6. Market Basket

A market basket refers to a sample of goods and services which is representative of all goods and services purchased by households. It is constructed by combining items into groups of similar commodities. It consists of 363 items which are categorized into 12 major groups.

1. Food and Non-Alcoholic Beverages.
2. Alcoholic Beverages, Tobacco and Narcotics.
3. Clothing and Footwear.
4. Housing, Water, Electricity, Gas and Other fuels.
5. Furnishing, Household equipment and Routine Household Maintenance.
6. Health.
7. Transport.
8. Communication.
9. Recreation and Culture.
10. Education.
11. Restaurant and Hotels.
12. Miscellaneous Goods and Services.

HIGHLIGHTS

Year-on-Year Inflation

The twelve months inflation calculated based on the price survey data gathered between January and March recorded an inflation of (+9.46%). These changes in prices were brought about by (+11.40%) increase in food items and (+8.39%) increase in non-food products. Refer **Table 1** for details.

At the Major group level, the prices of Food and non-Alcoholic Beverages increased by (+10.27%), Alcoholic Beverages and Narcotics products by (+27.73%), Clothing and Footwear by (+13.83%), Household Maintenance and Services by (+18.69%), Gas and Other Fuels by (+5.78%), Transportation and Transport Services by (+9.52%), and Recreation and Culture (+9.76%), respectively. Refer **Table 3 & 6** for details.

At the sub– group level, Narcotics products (doma and pani) saw significant price rise at (+47.96%), Other Food products such as Bhutanese and imported spices at (+24.54%), Fuels and Lubricants at (+12.55%), Alcoholic Beverages such as domestically produced whiskey, beer and imported beer at (+25.08%), Bread and Cereals products at (+8.31%), and Fruits and vegetables products at (+20.85%) and (+13.44%), respectively. Refer **Table 3 & 6** for details.

Quarter-to-Quarter Inflation

The overall price movement during the three months period (December-March) recorded an inflation of (+3.02%), as compared to (+1.72%) in the previous quarter. Food products contributed (+5.02%), while non-food products went up by (+1.92%), respectively during this quarter.

In the food group, prices of Fruits saw highest increase by (+32.18%), largely as a result of end of fruiting season in Bhutan and arrival of imported fruits. Bread and Cereal products went up by (+2.71%), Milk, Cheese and Egg items by (+5.49%), Sugar and Jam by (+2.27%), and Alcoholic Beverages by (+11.74%), respectively.

In the non-food group, Clothing increased by (+5.75%), Housing and Other Services related to households by (+1.07%), Medical drugs and Other Medical products by (+1.09%), Recreation and Culture by (+2.31%), and Furnishing, Household Equipment and Routine Household Maintenance by (+11.44%) respectively during this quarter. Refer **Table 4 & Table 7** for details.

Purchasing Power of Ngultrum (PPN)

The PPN, as measured by CPI, is recorded at 59 Chheltrum for the 1st quarter ending March 2012, as compared to 61 Chheltrum in the previous quarter. In other words, Ngultrum 100 in 1st quarter of 2012 is worth only Ngultrum 59 at 2003 prices. Refer **Table 1** for details.

3. Rebasing of CPI

CPI derives its usefulness in its representation of how much a typical market basket behaves over a specific time period. When the basket of the reference year no longer represents what households commonly purchase, the CPI becomes irrelevant and would tend to give wrong market signals.

Bhutan's CPI had 1979 as the base year. However, significant changes had taken place since then – economically, socially and technologically. A number of new products have emerged in the market, resulting to a change in consumption pattern and preferences of households. In order to capture these changes for a more meaningful price comparison, the revision of base year, the weights, the fixed market basket and the sample outlets was carried out in 2003.

4. Base Period

The base period is the period, usually a year, during which the index number is set to 100, although it could be any number, for instance, 1,000 or 1. 100 is usually selected to keep the calculation of percentage changes from the base year to the current period simple and effective. The year 2003 was chosen as the base year since it was the year when the **Bhutan Living Standard Survey (BLSS)** was conducted. Household income expenditure surveys or living standard surveys are conducted from time to time to determine CPI weights and market basket.

2. Background

The first CPI in Bhutan was published in 1979. It produced two types of price indices:

a Main CPI

This was produced at the national level as the main CPI. Prices were collected from 17 towns in the month of June and December every year. CPI weights were based on the **Consumer Expenditure Survey** undertaken in 1979. The average prices of individual items from all towns were weighted, depending on the importance of each item in the spending patterns of the population, and aggregated to compute price index at the group and the national level.

b Quarterly Food price Index of Thimphu

This was compiled as a quarterly series from June quarter 1988. The index reflected the average prices of food items collected from selected shops in Thimphu. Prices of fruits and vegetables were collected every month from the fruit and vegetable market.

TABLE 1. CONSUMER PRICE INDEX: FOOD AND NON-FOOD COMPONENTS (3rd Qtr. 2006 to 1st Qtr. 2012)
(3rd Qtr. 2003=100)

CPI CLASSIFICATION	Wt.	2006			2007			2008			2009			2010			2011			2012				
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
FOOD INDEX	31.67	115.03	115.12	116.32	125.52	124.73	125.30	129.10	140.98	140.35	140.02	140.51	150.38	154.21	155.06	157.83	160.75	164.44	169.84	174.45	177.73	182.06	185.05	194.34
NON-FOOD INDEX	68.33	116.80	118.07	118.35	121.64	121.73	121.55	122.82	130.38	131.19	130.96	130.71	131.83	131.46	131.92	133.84	139.39	141.23	143.61	146.08	149.32	152.68	155.35	158.34
TOTAL	100	116.24	117.14	117.71	122.68	122.74	124.81	133.74	134.09	133.83	133.81	137.70	138.67	139.25	141.44	146.15	148.58	151.92	155.07	158.32	161.98	164.76	169.74	
PERCENTAGE CHANGE YEAR ON YEAR																								
FOOD	31.67	5.83	5.23	5.44	9.50	8.43	8.84	10.99	12.32	12.52	11.75	8.84	6.67	9.88	10.74	12.33	6.90	6.63	9.53	10.53	10.56	10.72	8.96	11.40
NON-FOOD	68.33	5.20	5.33	3.84	4.22	2.95	3.78	7.19	7.77	7.74	7.74	6.42	1.11	0.21	0.73	2.39	5.73	7.43	8.86	9.15	7.12	8.11	8.17	8.39
TOTAL	100	5.39	5.30	4.34	5.94	5.54	4.78	6.03	8.85	9.30	9.04	7.21	2.96	3.42	4.05	5.70	6.14	7.15	9.10	9.64	8.33	9.02	8.45	9.46
PERCENTAGE CHANGE QUARTER TO QUARTER																								
FOOD	31.67	0.35	0.08	1.04	7.91	-0.63	0.46	3.03	9.20	-0.45	-0.24	0.35	7.02	2.55	0.55	1.79	1.85	2.30	3.28	2.71	1.88	2.44	1.64	5.02
NON-FOOD	68.33	0.16	1.09	0.24	2.78	0.07	-0.15	1.04	6.16	0.62	-0.18	-0.19	0.86	-0.28	0.35	1.46	4.15	1.32	1.69	1.72	2.22	2.25	1.75	1.92
TOTAL	100	0.22	0.77	0.49	4.38	-0.15	0.05	1.69	7.15	0.26	-0.19	-0.01	2.91	0.70	0.42	1.57	3.33	1.66	2.25	2.07	2.10	2.31	1.72	3.02
PURCHASING POWER OF NGULTROM (PPN)																								
PPN	1.00	0.86	0.85	0.85	0.81	0.82	0.81	0.80	0.75	0.75	0.75	0.75	0.73	0.72	0.72	0.71	0.68	0.67	0.66	0.64	0.63	0.62	0.61	0.59

TABLE 2. CONSUMER PRICE INDEX: MAJOR COMPONENTS (3rd Qtr. 2006 to 1st Qtr. 2012)
(3rd Qtr 2003=100)

CPI CLASSIFICATION	Wt.	2006				2007				2008				2009				2010				2011				2012	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
		29.44	114.46	114.49	115.82	125.02	124.22	124.25	128.41	140.64	139.85	139.13	139.36	149.99	154.09	155.12	158.14	161.18	164.91	170.60	175.53	178.62	181.94	184.55	193.56		
2.23	172.48	173.46	172.94	132.05	131.41	139.12	138.14	145.42	146.98	151.68	155.59	155.58	155.77	154.27	153.79	155.11	158.21	159.85	160.24	165.96	183.65	191.70	204.68				
10.49	117.09	118.47	121.25	128.03	128.20	127.92	133.38	144.92	144.86	145.56	144.23	145.53	143.97	147.49	147.27	149.47	151.04	155.39	162.31	167.77	175.79	181.10	184.76				
25.68	123.60	124.32	124.24	128.89	126.78	124.73	125.41	132.99	134.73	133.70	134.80	134.94	134.92	134.35	139.74	150.78	152.08	153.24	153.41	155.27	157.23	160.55	162.27				
5.68	111.68	115.17	115.14	122.53	122.04	121.42	122.37	129.51	128.03	127.40	127.77	128.00	132.73	132.59	131.13	136.50	139.15	141.13	143.13	141.91	151.47	152.44	169.88				
2.94	110.18	113.44	113.64	111.72	117.61	118.20	117.78	124.31	123.15	123.61	127.08	129.11	122.39	122.97	122.97	125.77	129.34	129.38	132.51	132.99	134.15	137.06	138.56				
7.06	121.16	121.14	120.91	119.84	121.25	126.57	127.20	140.08	143.78	143.79	141.58	144.30	144.25	144.82	145.45	148.15	150.74	151.66	156.96	167.86	169.35	171.33	171.91				
4.10	92.68	96.48	96.51	96.34	95.92	97.01	97.51	97.67	96.95	97.06	96.90	96.55	96.93	95.45	95.31	92.96	97.38	94.54	93.76	92.99	93.14	93.88	93.22				
2.62	112.02	114.76	114.84	113.80	125.02	126.00	126.00	128.84	129.38	130.29	130.13	131.04	128.58	131.05	130.91	131.09	132.27	150.35	172.78	181.43	183.18	185.36	189.65				
4.04	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
3.01	116.98	117.84	117.22	116.91	118.04	118.07	118.26	127.65	127.36	127.90	124.63	128.46	127.94	128.14	128.26	134.48	135.97	146.20	142.95	148.70	151.70	151.79	153.10				
2.72	123.82	123.52	121.63	125.25	126.34	126.37	126.59	131.73	131.70	132.01	125.64	133.18	129.96	131.07	131.06	132.96	135.29	136.45	131.99	134.95	139.62	141.26	142.00				
100.00	116.24	117.14	117.71	122.87	122.68	122.74	124.81	133.74	134.09	133.83	133.81	137.70	138.67	139.25	141.44	146.15	148.58	151.92	155.07	158.32	161.98	164.76	169.74				

TECHNICAL NOTES

1. Overview

Consumer Price Index (CPI) is a measure of changes in the average retail prices of a market basket of goods and services purchased by households for day-to-day living. It shows how much, on an average, prices of goods and services have increased or decreased from a particular reference period, commonly known as the base year.

CPI plays an important role in the national policy making, both in the economic and social spheres. It is used for a wide variety of purposes: viz. for measuring the rate of inflation; as an indicator for the performance of the economy; for indexation of wages and social security benefits; as a basis for fiscal and monetary policy interventions by the governments. It is also used as a deflator to express value series in real terms, i.e., measuring the change in actual volume of transactions by removing the effects of price changes.

**Graph 1: Quarterly Consumer Price Index
(3rd Qtr 2003=100)**

CONSUMER PRICE INDEX

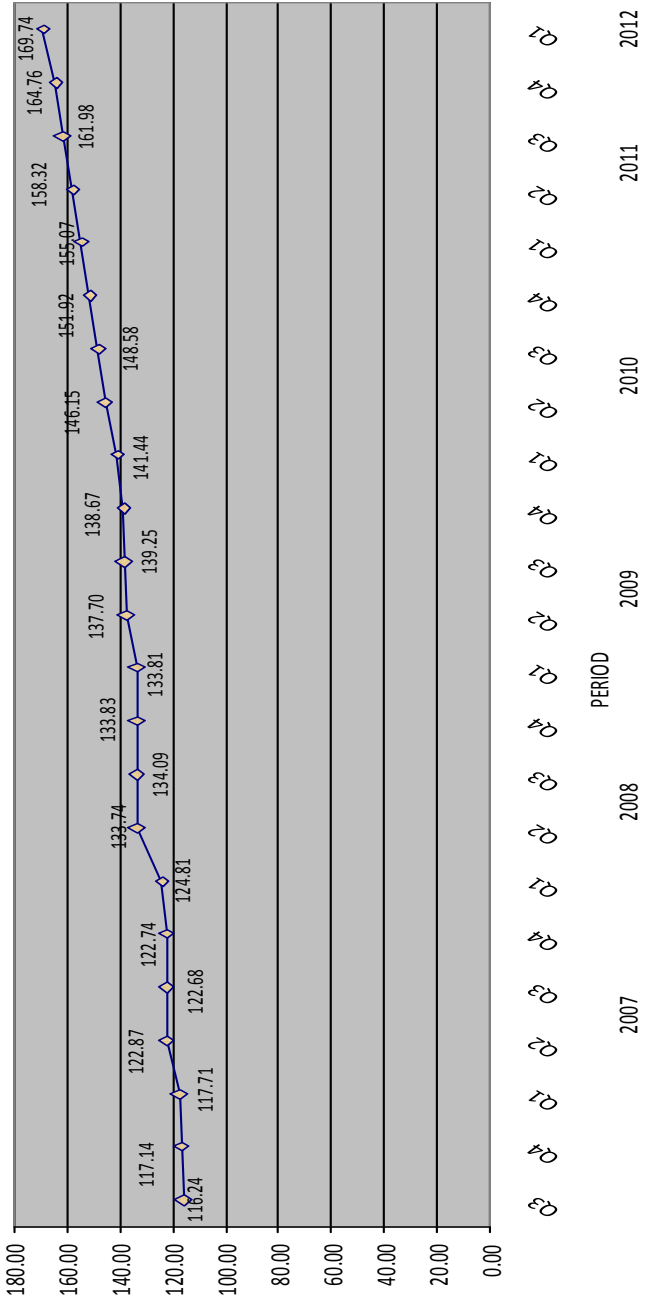


TABLE 5. CONSUMER PRICE INDEX: SUB-COMPONENTS (3rd Qtr. 2006 to 1st Qtr. 2012)

CPI CLASSIFICATION	Wt.	2006												2007				2008				2009				2010				2011				2012		
		Q3			Q4			Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4			Q1				
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2							
FOOD	27.69	114.74	114.73	116.08	125.82	124.93	124.94	129.21	142.19	141.29	140.51	140.46	151.74	156.05	157.02	160.20	163.61	167.48	173.07	178.36	181.35	184.76	187.52	196.75												
BREAD AND CEREALS (ND)	7.99	110.21	110.42	110.66	115.21	116.29	117.52	127.17	138.14	139.10	138.45	143.32	147.87	150.08	151.81	159.05	159.28	162.17	164.72	174.58	180.35	180.88	184.10	189.09												
MEAT	3.27	108.14	108.54	109.14	127.75	125.99	126.11	128.12	138.21	135.88	136.88	139.12	172.21	167.28	165.83	167.92	172.23	175.18	175.75	177.58	178.73	179.87	181.21	186.04												
FISH	1.03	107.07	107.69	107.49	109.68	111.27	113.29	116.61	126.88	127.89	129.10	130.96	137.08	141.91	152.58	151.68	160.26	161.24	165.30	167.75	169.32	170.22	167.01	169.96												
MILK, CHEESE AND EGGS	5.16	116.31	119.02	120.24	129.61	130.68	131.44	137.99	148.95	151.66	152.49	153.25	161.56	160.94	158.90	160.50	166.82	169.83	176.07	178.00	181.43	182.01	188.27	198.61												
OILS AND FATS	3.41	106.07	106.30	106.67	109.66	109.09	110.07	115.13	123.42	124.56	123.17	123.19	123.71	123.32	131.70	132.57	133.10	135.35	139.59	144.19	147.32	149.27	150.45	154.45												
FRUITS	1.35	117.39	117.84	117.88	120.79	144.05	144.74	145.82	190.16	172.05	170.41	161.57	194.44	191.97	187.16	221.86	222.10	194.33	203.78	247.78	236.57	232.16	226.54	299.45												
VEGETABLES	4.12	131.16	126.17	122.82	142.39	143.42	138.91	132.11	150.13	145.03	139.89	131.09	147.76	174.64	168.00	162.40	167.28	187.51	191.46	185.79	185.42	203.96	205.05	210.76												
SUGAR, JAM, ETC.	0.56	125.84	126.10	123.04	124.03	124.00	121.63	127.64	128.70	128.76	129.46	118.75	123.97	133.77	174.01	168.33	187.97	189.17	190.90	199.05	197.50	201.01	205.31	209.97												
FOOD PRODUCTS n.e.c.(ND)	0.87	125.50	126.80	128.16	127.83	127.13	126.87	131.38	142.15	143.93	146.82	147.93	149.29	154.61	145.70	146.59	151.23	155.74	215.50	207.80	232.06	236.17	252.53	258.80												
NON-ALCOHOLIC BEVERAGES	1.74	109.96	110.73	111.74	112.23	112.96	113.33	115.88	116.03	116.99	117.26	121.95	122.20	122.91	124.84	125.37	122.52	124.04	131.27	130.60	135.16	137.14	137.39	142.87												
ALCOHOLIC BEVERAGES	1.22	113.79	114.83	114.28	126.36	123.84	126.14	123.47	129.50	131.17	134.71	129.52	130.82	130.87	127.46	128.26	131.43	133.47	134.53	134.81	135.19	150.36	150.90	168.62												
TOBACCO	0.33	174.61	175.17	173.93	184.34	183.85	180.65	180.42	188.25	190.29	197.61	211.16	211.82	212.62	213.35	208.59	208.59	216.35	216.41	219.01	219.01	219.01	219.01	219.01												
NARCOTICS(ND)	0.89	113.23	114.30	114.19	117.41	120.03	142.49	144.16	153.41	154.54	160.06	175.58	172.91	173.05	173.89	173.17	171.83	174.61	178.03	177.57	195.48	226.02	251.09	262.73												
CLOTHING	7.87	117.83	118.66	122.24	125.05	122.45	124.12	132.15	143.71	140.94	141.48	137.91	141.95	145.99	150.29	150.08	152.27	152.83	154.60	158.51	161.33	161.45	161.47	170.76												
ACTUAL RENTALS FOR HOUSING	18.77	126.51	127.35	127.20	131.57	128.48	125.95	126.33	134.68	134.02	133.84	135.05	134.99	135.06	134.70	141.82	155.42	156.16	156.76	156.77	157.27	159.62	163.82	166.01												
ELECTRICITY, GAS AND OTHER																																				
FUELS	6.04	116.23	116.54	116.62	122.73	123.11	122.20	123.80	128.27	137.33	134.38	134.51	135.16	134.72	133.93	134.66	138.55	140.70	144.45	144.83	151.26	152.17	153.31	153.70												
FUELS AND LUBRICANTS	3.20	116.51	116.25	116.14	113.81	116.81	120.16	120.67	144.20	144.56	144.12	141.08	142.22	144.93	147.90	149.28	150.45	153.64	155.56	161.64	177.33	180.63	181.87	181.93												
EDUCATION	4.04	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00												
PERSONAL CARE	2.72	123.82	123.52	121.63	125.25	126.34	126.37	126.59	131.73	131.70	132.01	125.64	133.18	129.96	131.07	131.06	132.96	135.29	136.45	131.99	134.95	139.62	141.26	142.00												
TOTAL	100.00	116.24	117.14	117.71	122.87	122.68	122.74	124.81	133.74	134.09	133.83	133.81	137.70	138.67	139.25	141.44	146.15	148.58	151.92	155.07	158.32	161.98	164.76	169.74												

