



Ministry of Planning and International Co-operation

**Puntland's Consumer Price Index
&
Exchange Rate Regime**

Updated Report

Garowe, Puntland State of Somalia

April, 2017

Puntland's Consumer Price Index & Exchange Rate Regime

Executive Summary

CPI is obtained by comparing through time, the cost of a fixed basket of commodities purchased by consumers. Since the basket contains commodities of unchanging or equivalent quantity and quality, the index reflects only pure price movements. Price movements of the goods and services represented in the CPI are weighted according to the relative importance of commodities in the total expenditures of consumers.

Table 1 and Figure 1 show fluctuations in the general level of prices in Puntland. As can be seen in Table 1 there are three-digit figures since 2008 in Garoowe. In the first quarter of 2011 the rate of inflation in Puntland has reached **114.87%** with respect to the base year 2005 which shows an increase of **34.91%** with respect to the last quarter of 2010. Prices have increased in quarter three due mainly to an increase in prices in Bossaso (Table 1). Both Bossaso and Garowe have shown a decrease in prices in the fourth quarter of 2012. Therefore, the inflation rate of Puntland has fallen to an average of **61.83%** in 2012 with respect to the base year 2005. Although Bossaso has shown a decrease in prices in the first quarter of 2013 Puntland prices have increased to **82.745%** from the last quarter of 2012 due to an increase in prices in Garowe. There is a slight increase in the overall price level for the first quarter of 2017 reaching an average of **138.38%** with respect to the base year of 2005 (See Table 1 & Figure 1).

With regard to the foreign exchange regime in Puntland we have observed that for the first time in the history of Puntland, and indeed in Somalia in general, there is a declining trend in the market exchange rates and since August 2011 it is below the level (around SoSh20.99 in December 2012 per US\$) of the official exchange rate of SoSh30,000 per US\$ (See Table 2 & Figure 2).

A recent report by an economic committee set for this purpose have come to a sensible proposal to collect import-export duties in solely US \$'s.

Mobile Phones Money Transactions (**SAHAL**)

Sahal is a Golis Telecom service allowing customers to transfer money using a mobile phone. It has solved the crucial problem of finding smaller denominations of the USD since the SoSh currency notes are disappearing from Puntland circulation after the Government stopped printing them due to inflationary pressures.

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I. CPI in Puntland

The Department of Statistics of the Ministry of Planning and International Co-operation publishes the CPI (for a definition of CPI see Annex V.4) on a monthly basis. For the first week of every month, data is collected from the different markets in three cities in Puntland (Garowe, the capital of Puntland, Bossaso the main financial city, and Galkacayo the second main commercial city). Aggregations are then obtained by compiling data on quarterly and on annual basis.

CPI is obtained by comparing through time, the cost of a fixed basket of commodities purchased by consumers. Since the basket contains commodities of unchanging or equivalent quantity and quality, the index reflects only pure price movements. Price movements of the goods and services represented in the CPI are weighted according to the relative importance of commodities in the total expenditures of consumers.

Samples in the price survey are obtained from a judgmental selection of geographical areas, representative commodities, and types and locations of retail outlets. Puntland has started approximately with a basket of 127 commodities specified to represent the price movement in 20 basic commodity classes. Sample commodities are chosen on the basis of representative-ness and expected continuous availability. The price quotes used in the construction of the CPI are collected by personal visits to selected retail outlets in the main urban areas of Bossaso, Galkacayo, and Garowe. For details in the derivation of CPI contact the above Statistics Dept.

Generally, factors affecting the quality of the CPI include: - the size and composition of the price samples of commodities and outlets – the accuracy of the expenditure estimates used to assign weights – the frequency and speed of updating of the contents and weights of the CPI basket – the effectiveness of error detection and correction, and imputation methods for missing data – the application of appropriate methods of adjusting for quality change of commodities in the CPI sample. The CPI is believed to be sufficiently accurate for most practical purposes. In terms of general accuracy it is better at the Puntland level for any product index in the CPI compared to the same index at the city level.

The method used to construct CPIs in Puntland is the Laspeyres index. The Laspeyres index uses a typical basket purchased in the earlier of two periods compared. The Laspeyres index is computed as:

$$P_L = \frac{\sum(p_{c,t_n} \cdot q_{c,t_0})}{\sum(p_{c,t_0} \cdot q_{c,t_0})}$$

where P is the change in price level, t_0 is the base period (usually the first year), and t_n the period for which the index is computed, and

$p_{c,t}$ represents the prevailing price of c in period t

$q_{c,t}$ represents the quantity of c sold in period t

If, across two periods t_0 and t_n , the same quantities of each good or service were sold, but under different prices, then

$$q_{c,t_n} = q_c = q_{c,t_0} \quad \forall c$$

I.1 Limitations in Puntland's CPI computations

The statistical sources required for regional and outlet-type breakdowns are usually weaker. Only a large-sample Household Expenditure survey can provide a regional breakdown. Regional population data are sometimes used for this purpose, but need adjustment to allow for regional differences in living standards and consumption patterns.

Puntland is still waiting to implement a Household Expenditure survey as proposed on a number of occasions followed by frequent disruptions since 2002. It would have been easier to categorize the statistical relevance and the choice of representative goods and services basket. These are only part of the general CPI weaknesses: (i) Average spending pattern; (ii) Calculation errors; (iii) Expenditure survey absence; (iv) Delay in updating basket.

II. Inflation in Puntland

The percent change in the CPI is a measure of *inflation*. It is calculated by the formula

$$\text{CPI} = \frac{\text{Quantity*price in specific year}}{\text{Quantity*price in base year/period}} * 100$$

The rate of inflation is calculated by the formula

$$\text{Inflation Rate} = \frac{\text{CPI new} - \text{CPI old}}{\text{CPI old}} * 100$$

Inflation is computed quarterly & annually using the CPI at city levels and at Puntland level as shown in **Table 1** below:

Adjustments are needed to compute the proper inflation rate. This will require the elimination of some items in the list which might over-estimate or underestimate the rate of inflation in Puntland. For the above years the price of timber was removed from the list as a major item that considerably amplifies the general price level.

Inflation rate for Puntland was calculated by averaging the CPI data for only two cities (Garooowe and Bossaso). Galkacayo could not be included for Puntland CPI as the collection of data started late in 2008 by the MoPIC's Dept. of Statistics team with the assistance of UNDP-Somalia.

Figure 1: Inflation Rates

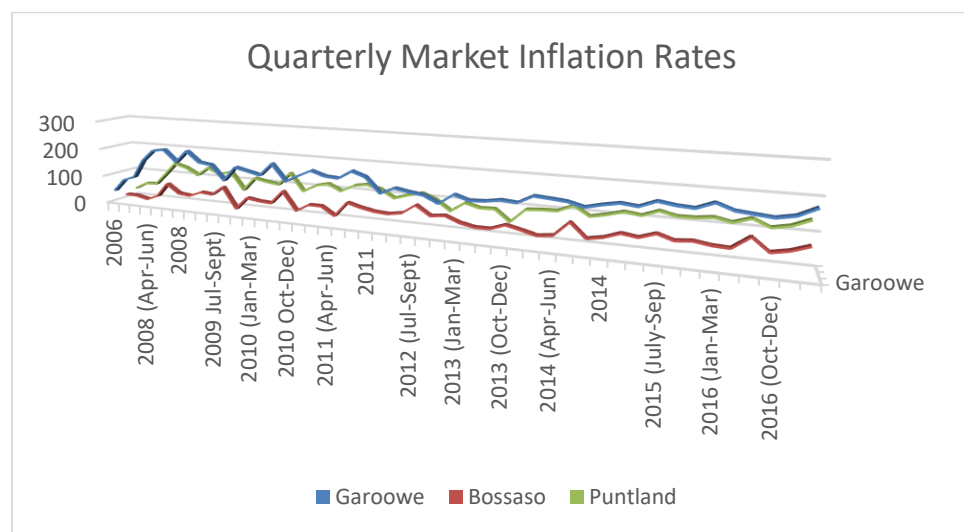


Figure 1 shows fluctuations in the general level of prices in Puntland. As can be seen in Table 1 there are three-digit figures since 2008 in Garoowe. In the first quarter of 2011 the rate of inflation in Puntland has reached **114.87%** with respect to the base year 2005 which shows an increase of **34.91%** with respect to the last quarter of 2010. Prices have increased in quarter three due mainly to an increase in prices in Bossaso (Table 1). Both Bossaso and Garowe have shown a decrease in prices in the fourth quarter of 2012. Therefore, the inflation rate of Puntland has fallen to an average of **61.83%** in 2012 with respect to the base year 2005. Although Bossaso has shown a decrease in prices in the first quarter of 2013 Puntland prices have increased to **82.745%** from the last quarter of 2012 due to an increase in prices in Garowe. There is a slight increase in the overall price level for the first quarter of 2017 reaching an average of **138.38%** with respect to the base year of 2005.

Inflation in Puntland has two major sources: domestic and International:

- (i) The domestic source is being contained to some extent by some positive steps taken by the Puntland Government in 2008, such as closing all the money printing establishments within Puntland as well as controlling for incoming banknotes from elsewhere. The Government has also set clear cut pro-poor policies such as reducing taxes by 20% to all imported necessity goods (mainly food items in 2008) and reduced by US\$2 the commission fee levied at the quarantine station gate per animal for exports in 2010 as well as lifting all local taxation for livestock transportation for exports.
- (ii) On the international front, after the experience of summer 2008, there is a real concern about the high volatility of energy prices, the new strategy for bio-fuels, and the declaration that a good number of world food country exporters are on the brink of withdrawing and restricting their

exports and hence their export policies will have direct effects to local consumers everywhere. Now, we are expecting the full impact of the global financial crisis.

As in most countries of the world, one of the main objectives for Puntland is to keep the inflation rate as low as possible.

III. Foreign Exchange Rates

A liberal financial system operates in Puntland, with a dual exchange rate subsystem that uses market rates for private transactions but a usually overvalued rate for government transactions. The widely used foreign exchange rate in Puntland is the So.Sh./US\$ as shown below:

Figure 2: Foreign Exchange Market Rates Fluctuations (SoSh/USD)

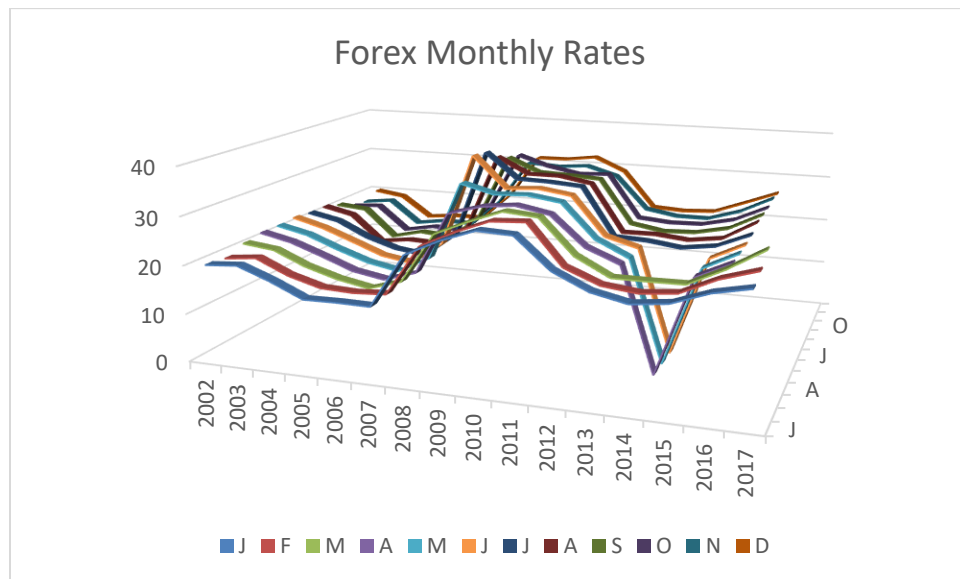
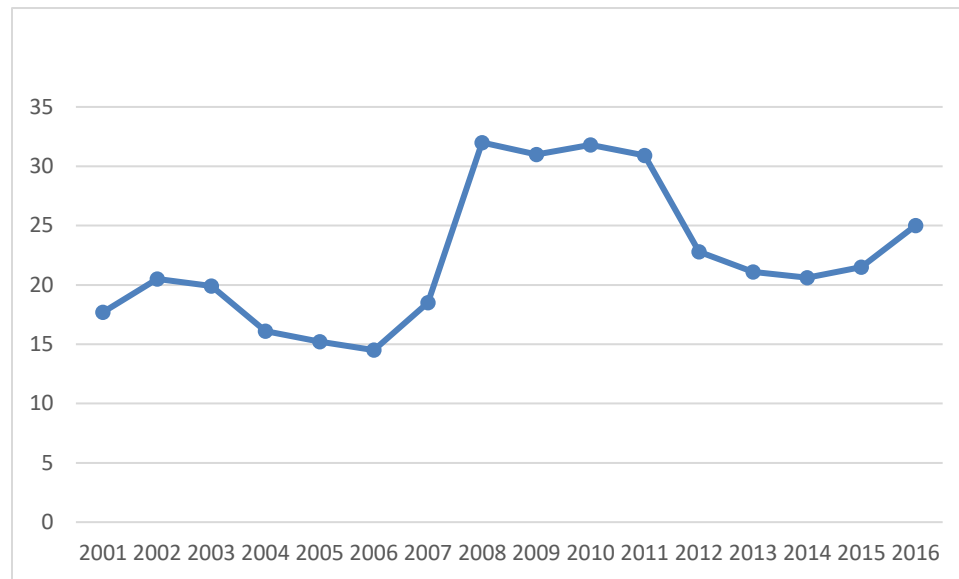


Figure 2a – Yearly Forex Rates



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V. Annexes

V.1 Table 1: Inflation in Puntland (Base Year 2005) in %

Year	Garoowe	Bossaso	Puntland
2006	43.32	16.11	29.72
2007	86.65	15.55	51.10
2008(Jan-Mar)	102.01	5.83	53.92
2008 (Apr-Jun)	166.02	23.18	94.60
2008 (Jul-Sept)	204.49	72.12	138.31
2008 (Oct-Dec)	211.36	40.99	126.18
2008	170.97	36.53	103.25
2009 (Jan-Mar)	212.91	53.75	133.33
2009 (Apr-Jun)	176.75	49.96	113.36
2009 Jul-Sept)	171.00	81.07	126.04
2009 (Oct-Dec	120.59	06.99	63.79
2009	170.16	50.44	110.30
2010 (Jan-Mar)	160.22	43.52	101.87
2010 (Apr-Jun)	150.47	40.97	95.69
2010 (Jul-Sept)	193.48	87.37	140.43
2010 Oct-Dec)	137.19	22.80	79.96
2010	160.34	48.67	104.49
2011 (Jan-Mar)	181.03	48.71	114.87
2011 (Apr-Jun)	166.73	19.69	93.21
2011 (Jul-Sep)	163.44	70.06	116.75
2011 (Oct-Dec)	190.90	58.03	124.47
2011	175.525	49.1225	112.325
2012 (Jan-Mar)	126.57	46.20	86.385
2012 (Apr-Jun)	147.66	53.91	100.785
2012 (Jul-Sept)	139.88	84.98	112.43
2012 (Oct-Dec)	133.61	54.23	93.92
2012	111.93	59.83	61.83
2013 (Jan-Mar)	144.76	41.44	93.1015
2013 (Apr-Jun)	130.18	31.90	81.04
2013 (Jul-Sep)	133.00	32.49	82.745
2013 (Oct-Dec)	141.20	50.01	45.605
2013	137.285	38.96	90.48
2014 (Jan-Mar)	162.27	26.50	94.385
2014 (Apr-Jun)	158.89	32.76	95.825
2014 (July-Sep)	154.86	79.67	117.27
2014 (Oct-Dec)	142.6	33.96	88.28
2014	154.655	43.2225	98.94
2015 (Jan-Mar)	163.94	61.10	112.52
2015 (Apr-Jun)	158.78	53.90	105.95
2015 (July-Sep)	178.68	71.01	124.85

2015 (Oct-Dec)	171.07	55.32	113.20
2015	168.12	60.33	114.23
2016 (Jan-Mar)	188.40	52.70	120.55
2016 (Apr-Jun)	170.58	50.38	110.48
2016 (July-Sep)	165.73	88.79	127.26
2016 (Oct-Dec)	161.24	49.88	105.56
2016	171.49	60.44	115.96
2017 (Jan-Mar)	197.49	79.26	138.38

Source: Statistics Department, MoPIC

V.2 Table 2: Foreign Exchange Rates

Table 2 - Average Monthly Exchange Rate* for So.Sh per USD
2001-2014 (hundreds of thousands)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
J	19.9	20.4	17.9	14.9	15.0	14.9	25.7	29.0	31.5	31.2	25.2	22.0	20.5	21.3	23.9	25.4
F	19.5	20.2	17.2	15.3	15.0	15.4	25.7	29.0	31.7	32.1	24.1	21.3	20.5	21.2	24.5	26.7
M	21.0	20.2	17.3	15.3	14.0	16.1	26.5	29.5	32.1	31.5	24.5	20.9	20.9	21.0	24.5	28.8
A	21.7	20.2	17.8	15.2	14.0	16.1	29.1	31.1	31.8	30.5	24.5	21.7	21.2	20.5	23.9	
M	21.7	20.2	17.6	15.3	14.0	17.5	34.0	32.2	32.5	31.5	24.5	21.2	20.6	20.4	24.0	
J	22.0	20.2	17.7	15.1	14.0	19.0	38.6	32.0	32.5	31.5	23.5	21.6	21.8	20.6	24.1	
J	21.6	20.2	17.0	14.9	14.0	19.2	38.1	32.7	32.5	32.0	21.7	21.4	20.5	21.5	24.5	
A	21.6	20.1	14.4	15.3	15.0	19.6	35.9	32.5	32.5	31.3	21.1	21.2	20.5	21.5	25.6	
S	20.6	20.0	14.0	15.6	15.0	20.3	34.6	31.7	31.4	31.0	21.5	20.3	20.6	22.1	25.7	
O	18.9	19.4	14.0	15.3	15.0	21.3	34.0	31.8	30.5	30.8	21.3	20.7	20.9	22.5	25.8	
N	18.5	19.3	14.2	15.2	15.0	21.3	31.0	30.5	31.1	29.1	21.9	20.7	20.7	22.9	26.4	
D	20.0	19.0	14.3	15.0	15.0	21.3	31.0	31.1	32.0	29.0	20.9	20.5	20.9	23.5	26.2	
Y	20.5	19.9	16.1	15.2	14.5	18.5	32.0	31.0	31.8	30.9	22.8	21.1	20.6	21.5	25.0	

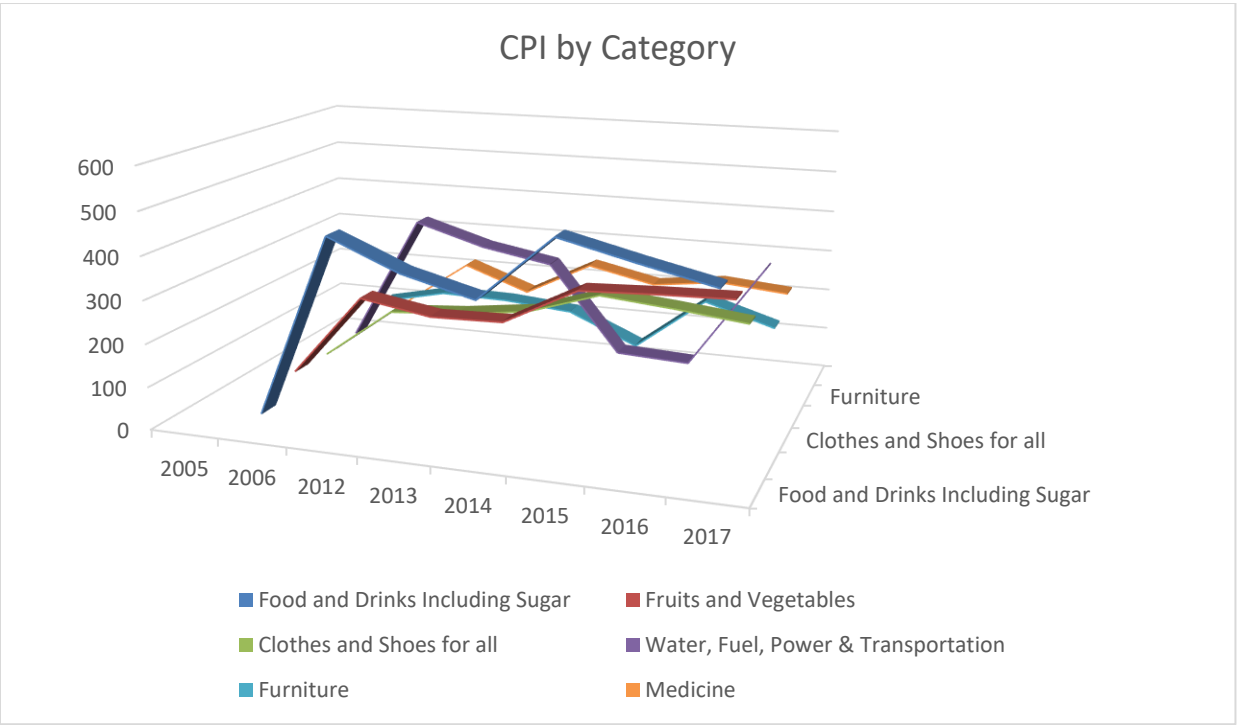
Source: Statistics Department, MoPIC

* This reflects only the foreign market exchange rates. Since August 2011 the official exchange rate is fixed at So.Sh 30,000 per US\$. After serious discussions with the Puntland authorities traders are allowed to pay 60% of their duties in US\$ and the remaining 40% in SoSh at the official rate of exchange. A recent report by an economic committee set for this purpose have come to a sensible proposal to collect import-export duties in solely US \$'

V.3 Puntland CPI Classified Items

Q1 2017	2005	2006	2012	2013	2014	2015	2016	2017
Food and Drinks Including Sugar	50.74	465.785	398.405	356.385	502.14	462.36	425.44	
Fruits and Vegetables	99.31	288.435	261.105	264.91	350.44	357.35	361.84	
Clothes and Shoes for all	93.60	213.66	225.465	245.94	298.83	283.66	265.39	
Water, Fuel, Power & Transportation	100.89	395.19	347.325	317.99	118.23	110.21	348.02	
Furniture	142.05	177.225	173.735	159.54	88.27	215.94	165.85	
Medicine	99.96	212.755	154.565	239.13	203.65	223.87	209.33	

Figure 3 Consumer Price Index Distributed by Category



V.4 Consumer Price Index

A **consumer price index (CPI)** is an index number measuring the average price of consumer goods and services purchased by households. It is one of several price indices calculated by national statistical agencies. The percent change in the CPI is a measure of *inflation*. The CPI can be used to index (i.e., adjust for the effects of inflation) wages, salaries, pensions, or regulated or contracted prices. The CPI is, along with the population census and the National Income and Product Accounts, one of the most closely watched national economic statistics.

Two basic types of data are needed to construct the CPI: price data and weighting data. The price data are collected for a sample of goods and services from a sample of sales outlets in a sample of locations for a sample of times. The weighting data are estimates of the shares of the different types of expenditure as fractions of the total expenditure covered by the index. These weights are usually based upon expenditure data obtained for sampled periods from a sample of households. Although some of the sampling is done using a sampling frame and probabilistic sampling methods, much is done in a commonsense way (purposive sampling) that does not permit estimation of confidence intervals. Therefore, the sampling variance is normally ignored, since a single estimate is required in most of the purposes for which the index is used.

The index is usually computed monthly, or quarterly in some countries, as a weighted average of sub-indices for different components of consumer expenditure, such as food, housing, clothing, each of which is in turn a weighted average of sub-sub-indices. At the most detailed level, the elementary aggregate level, detailed weighting information is unavailable, so elementary aggregate indices are computed using an un-weighted arithmetic or geometric mean of the prices of the sampled product offers.

It takes time to assemble and process the information used for weighting which, in addition to household expenditure surveys, may include trade and tax data.

The index reference period, usually called the base year, often differs both from the weight-reference period and the price reference period. This is just a matter of rescaling the whole time-series to make the value for the index reference-period equal to 100. Annually revised weights are a desirable but expensive feature of an index, for the older the weights the greater is the divergence between the current expenditure pattern and that of the weight reference-period.

For some of these lower level indexes detailed weights within them may be available, allowing computations where the individual price observations can all be weighted. This may be the case, for example, where all selling is in the hands of a single national organisation which makes its data available to the index compilers. For lower level indexes, however, the weight will consist of the sum of the weights of a number of elementary aggregate indexes, each weight corresponding to its fraction of the total annual expenditure covered by the index. An 'elementary aggregate' is a lowest-level component of expenditure, one which has a weight but within which, weights of its sub-components are usually lacking. Thus, for example: Weighted averages of elementary aggregate indexes (e.g. for men's shirts, raincoats, women's dresses etc.) make up low level indexes (e.g. Outer garments),

Weighted averages of these in turn provide sub-indices at a higher, more aggregated level,(e.g. Clothing) and Weighted averages of the latter provide yet more aggregated sub-indices (e.g. Clothing and Footwear).

Most elementary aggregate indexes are necessarily ‘un-weighted’ averages for the sample of products within the sampled outlets. However in cases where it is possible to select the sample of outlets from which prices are collected so as to reflect the shares of sales to consumers of the different outlet types covered, self-weighted elementary aggregate indexes may be computed. Similarly, if the market shares of the different types of product represented by product types are known, even only approximately, the number of observed products to be priced for each of them can be made proportional to those shares.

The outlet and regional dimensions noted above mean that the estimation of weights involves a lot more than just the breakdown of expenditure by types of goods and services, and the number of separately weighted indexes composing the overall index depends upon two factors:

The degree of detail to which, available data permit breakdown of total consumption expenditure in the weight reference-period by type of expenditure, region and outlet type.

Whether there is reason to believe that price movements vary between these most detailed categories.

How the weights are calculated, and in how much detail, depends upon the availability of information and upon the scope of the index. The situation in most countries comes somewhere between these two extremes. The point is to make the best use of whatever data are available.

V.4.1 The Nature of the Data used for Weighting

No firm rules can be suggested on this issue for the simple reason that the available statistical sources differ between countries. However, all countries conduct periodical Household Expenditure surveys and all produce breakdowns of Consumption Expenditure in their National Accounts. The expenditure classifications used there may however be different. In particular:

Household Expenditure surveys do not cover the expenditures of foreign visitors, though these may be within the scope of a Consumer Price Index.

National Accounts include imputed rents for owner-occupied dwellings which may not be within the scope of a Consumer Price Index. Even with the necessary adjustments, the National Account estimates and Household Expenditure Surveys usually diverge.