

# REVISION OF THE CONSUMER BASKET OF SO SR

Mgr. Miroslav Gavura, National Bank of Slovakia

During 2001, the Statistical Office of the SR (SO SR) carried out the planned revision of the consumer basket. This means, that from 2002 inflation will be calculated on the basis of a new consumer basket. The last revision of the consumer basket was done 5 years ago. The structure of household expenditure, which provides a basis for the weight system of the consumer basket, has changed since then. In principle, we can say that the fewer consumer basket revisions, the greater the probability the value of inflation will be distorted. The gradual change in the purchasing habits of households and the entry of new products on the market are the reasons behind this, which may distort the reported increase in the cost of living. Distortions occur as a result of the fixed structure of items and their constant weights in the consumer basket. With regard to the fact that households tend to consume cheaper goods and services, the value of inflation may be overestimated. According to foreign studies, marked distortions in the value of inflation may occur as early as three years after the last revision of the consumer basket and the difference in inflation is estimated at around 1 percentage point. The purpose of the revision was to eliminate distortions in the recoded value of inflation and to adopt the regulatory directives of EUROSTAT with the aim at harmonising the calculation of price indices.

## Effect of consumer basket revision on inflation

The effect of consumer basket revision on inflation may be analysed in periods, when the prices of all items are available from both the old basket and the new one. The year 2001 is such a period. According to data from the Statistical Office of the SR, the adoption of the new consumer basket had no significant effect on the level of overall or core inflation reported. The rate of inflation, calculated on the basis of the new consumer basket, would have reached 6.4% in 2001, representing a difference of 0.1 of a percentage point in comparison with the actually recorded rate of inflation based on the old basket (6.5%). The same difference was recorded in the case of core inflation, which would have reached 3.1% in 2001 according to the new consumer basket (the actual figure was 3.2%). The comparison of values at the level of inflation or core inflation shows no distortions in the Consumer Price Index (CPI), even five years after the last revision. However, a more detailed analysis of the new consumer basket or changes in its structure may indicate significant differences, which could have impact on the level of inflation in the future. In addition, the composition of the consumer basket may reveal the current trend in the standard of living.

## Characteristics of the new consumer basket

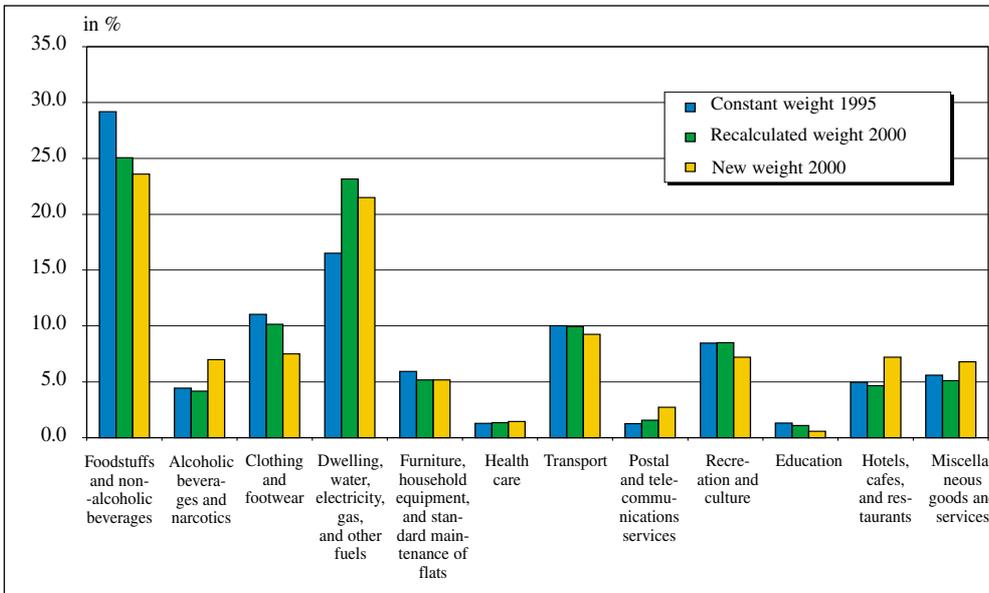
Until 2001, the Consumer Price Index (CPI) had been based on a consumer basket of prices from December 1995. The selection and weight of individual items in the basket were based on the structure of household expenditure in 1995. From 2002, the new consumer basket will be used with items and weights based on the statistics of family accounts from 2000 and data from other sources (statistics on trade, tourism, national accounts, administrative sources, and the corporate sector). The December 2000 will be the base period for the calculation of the CPI.

In quantitative terms, the number of items in the new consumer basket was reduced from 710 in the old basket into 703. Of this figure, 663 items were virtually identical in the both baskets, representing a share of roughly 97%. The new items include the services of mobile phone networks (including mobile phones), new and second-hand motor vehicles, and new pharmaceuticals. From 1995 to 2001, however, the Statistical Office made several qualitative changes in the old basket. Some items were excluded from categories clothing, restaurants, and hotel services. Since the new items represent only about 3% of the new consumer basket, qualitative changes are not expected to affect the Consumer Price Index to significant extent.

According to COICOP classification (Classification of Individual Consumption by Purpose), the Statistical Office of the SR primarily divided the consumer basket into 11 divisions. In connection with the gradual harmonisation of the method of determining the CPI with that of EUROSTAT, the new consumer basket is divided into 12 divisions. Compared with the original classification (COICOP) the price index is monitored separately in the division 'postal and telecommunications services'.

## Change in the structure of household expenditure

Changes in the weight structure of individual categories are affected by different developments in prices of individual items, and changes in household consumption in terms of both quality and quantity of goods purchased during the years 1995 – 2000. In calculating the actual rate of inflation, the weight of items whose prices increased at a faster rate than the general price level, will be higher in the current period. This means that changes in the prices of relatively more expensive goods (services) will have a higher weight than in the base period. On the contrary, the weight of a relatively

**Comparison of consumer baskets by structure according to COICOP classification**

cheaper commodity (service) will fall. The current weight of a consumer basket items is determined by the base (constant) weight of given items and its price increase. Such weight is referred to as recalculated (normed) weight and represents the fictitious relative share of expenses for a certain commodity or service in the current period.

The effect of varying price developments is apparent from comparison of the old consumer basket with constant 1995 weights and weights recalculated to December 2000. On the other hand, the change in household consumption outside the price effect can be assessed from a comparison of the recalculated weights in the old basket (for December 2000) and the weights in the new basket based on the structure of household consumption in 2000.

Comparisons at the level of COICOP categories indicate that the sharpest fall, from 29.2% in 1995 to 23.6% in 2000, took place in the weight of foodstuffs (including non-alcoholic beverages). The fall in the share of foodstuffs in total household expenditure (more than 5 percentage points) was connected with the lower dynamics of prices during the period 1995 – 2000, and the shift of a part of consumption to other goods and services. The structure of the new consumer basket also indicates that households in the SR spent in 2000 less money on clothing and footwear than in 1995. There was also fall in expenditure on recreation and culture, and spending on transport fell slightly as well. Significant increase was recorded, in line with expectations, in the share of expenses related to dwelling, due primarily to acceleration in the process of deregulations in 1999 and 2000. A negative trend in society is the increase in the weight of alcoholic beverages and tobacco. In 2000, an average household in Slovakia spent approximately 7% of its net expenditures on alcoholic beverages and tobacco goods (compared with 4.4% in 1995). The share of household expenditures on hotels, cafés, restaurants, and miscellaneous goods and services also increased. In other categories only moderate changes were recorded.

The comparison between the old consumer basket with constant 1995 weights and weights recalculated to December 2000 indicates that the largest shifts of weights within COICOP divisions were caused by differences in price development. On the other hand, comparison of the recalculated weights of the old consumer basket (to December 2000) and the weights of the new basket based on the structure of household consumption in 2000 indicates that the years 1995 – 2000

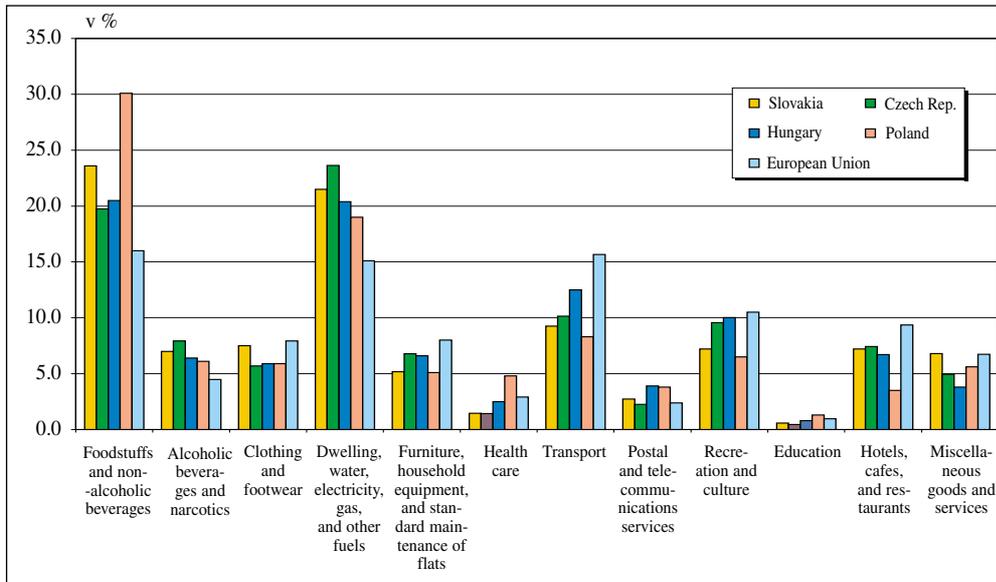
saw no significant change in the structure of household consumption ascribable to a quantitative or qualitative change in the purchase of individual consumer-basket items. As a result of such a change, however, there was a shift in weighting from the categories ‘clothing and footwear’ and ‘recreation and culture’ to the categories ‘alcoholic beverages and tobacco’; ‘hotels, cafés, and restaurants’; and ‘miscellaneous goods and services’.

**Comparison of the consumer basket with those applied in neighbouring countries**

The structure of the consumer basket may also indicate a country’s living standard. A typical feature of poorer countries is the high share of household expenditure on foodstuffs and dwelling. On the other hand, advanced countries are characterised by a higher share of expenditure on recreation, culture, luxury goods and other market services. The share of expenditure on necessities (food and dwelling) in the net expenditures of an average household in the SR represented almost 50% in 2000, which places Slovakia among the poorer countries. The weight of foodstuffs in the consumer basket (despite a significant fall in comparison with 1995) was still much higher than in developed countries (cca 16% in the EU). As a result of deregulations in 1999 and 2000, the share of dwelling costs in the SR approached the EU average<sup>1</sup>. This means that with continuation of deregulations in 2001 and the following years, may be come the share of dwelling costs in the SR even higher. Due to lower standard of living can Slovak citizens afford to spend a smaller share of their in-

<sup>1</sup> In contrast with the Harmonised Consumer Price Index used by EUROSTAT, the consumer basket of the Statistical Office of the SR includes the item ‘imputed rent’ (hypothetical rent for family houses and flats in private ownership, representing a weight of 6.3% in the new basket). Excluding this item out of account, the share of dwelling costs in Slovakia is comparable with that in the European Union.

**Comparison of consumer baskets in selected countries by structure according to COICOP classification**



**Structure of the consumer basket by sector**

A different aspect of the change in the structure of the consumer basket results from its division into tradeable and non-tradeable sectors, i.e. foodstuffs, tradeable goods, regulated prices, and market services. In contrast with COICOP classification, price developments in the individual sectors according to this classification follow certain rules and thus it is easier to reveal the effects

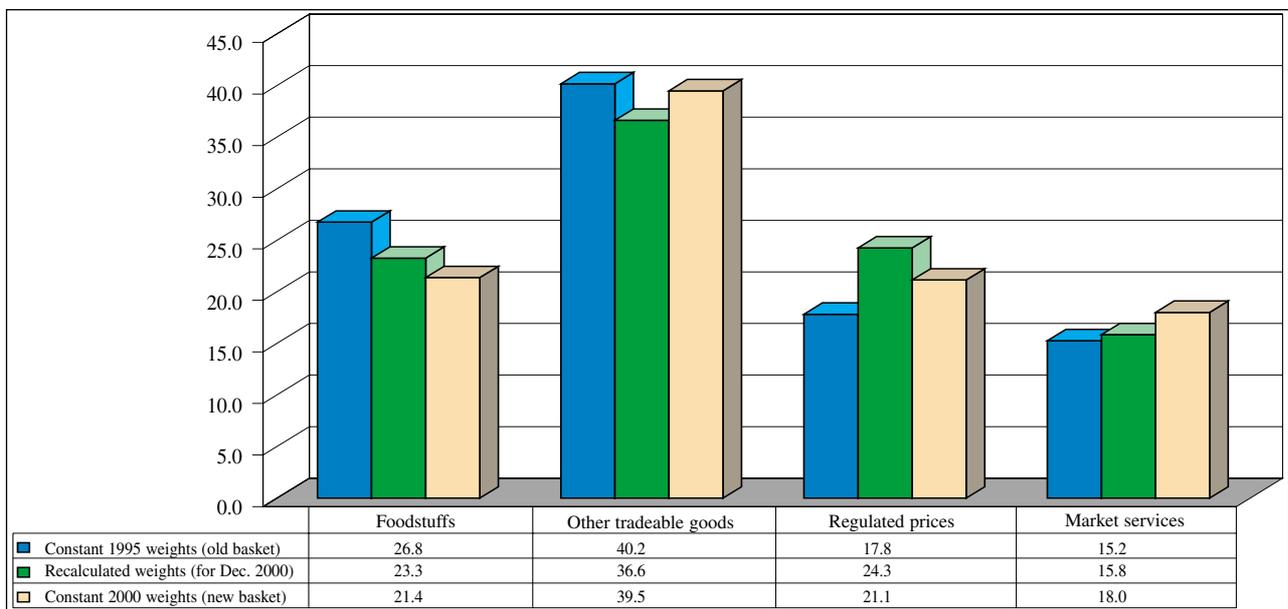
comes on recreation and culture than citizens in developed countries. Significant improvement, however, cannot be expected in the near future. In connection with the ongoing reform, the share of expenditure on health care is expected to increase gradually. The same applies to expenditures on transport, the lower weight of which is connected with the use of regulated prices in the area of passenger transport.

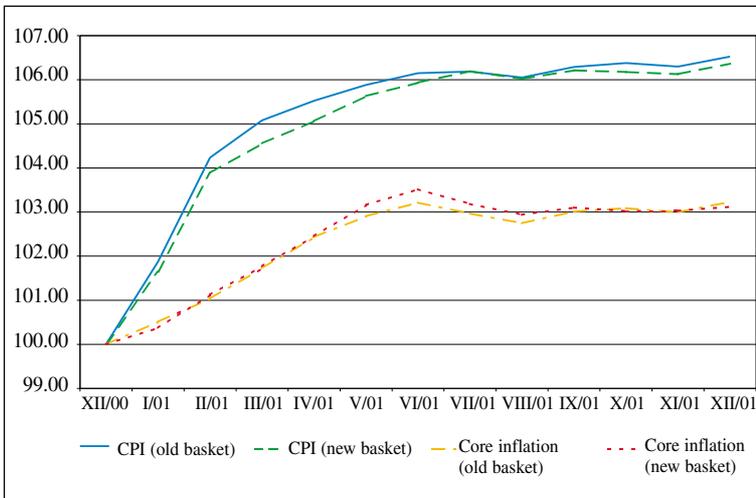
Comparison with the neighbouring transition economies seems to be in favour of the Czech Republic and Hungary. The structure of household consumption in these countries is very similar and close to consumption behaviour in developed countries. The biggest differences in comparison with the EU can be seen in the composition of household expenditure in Poland.

of individual factors on the price increase. This classification enables a more detailed view of the possible influence of new consumer basket on the level of overall and core inflation.

The share of the tradeable sector in the new basket is approximately 61% (67% in the old basket with constant weights). The decrease in the share of household expenditures on foodstuffs was in favour of the weights of items with regulated prices and market services. The tradeable goods (excluding foodstuffs) maintained in 2000 roughly the same weight as in 1995. The weight of regulated prices is in the new basket higher than in 1995, but lower than the weight in the original basket converted to December 2000. The fall of weight took place predominantly in the sector of expenses related to dwelling as expected. Within this sector, the weight of regulated rent fell in line with the expectations (due to the sale of flats to private owners), together with the weight of heat and electrical energy.

**Structure of the consumer basket in Slovakia (in %)**



**Conversion of consumer prices in 2001 (Dec. 2000 = 100)**

This means in practice, that the continual deregulation process should, in the case of the new consumer basket, represent a smaller contribution to overall inflation than in the case of the weight system of the basket used prior to 2001.

The increase in the share of household expenditures on other tradeable goods (the increased weight of this sector in the new basket compared with the weight recalculated for December 2000) and market services indicate that in the period from 1995 to 2000 has the living standard of the population slightly increased. This development is rather surprising, since the years 1999 and 2000 saw relatively steep increases in regulated prices, which led to high inflation and a marked fall in real incomes. In such an environment, it could be expected that the incomes of households would be used to cover the costs of necessities (foodstuffs and dwelling costs) and that the share of expenses on market services and durables would decrease. However, the changes in the structure of the consumer basket were probably dominated by the positive development in real wages in period from 1996 to 1998 (even in 1999 and 2000 were real wages higher than in 1995).

### Effect of the revised consumer basket on the level of inflation

Comparison of the old consumer basket and new one in terms of structure in a breakdown by COICOP divisions indicates that from 1995 to 2000 remained the composition of household expenditure almost unchanged. This indicates that the adoption of the new consumer basket will not necessarily represent an unexpected effect on the level of inflation. The comparison of overall and core inflation in 2001, calculated on the basis of both baskets, indicates that the revision of the consumer basket had no marked effect on the level of inflation in 2001, at least not at the higher level of aggregation. In the individual months of 2001, however, the difference in inflation fluctuated up to 0.5 of a percentage point.

Core inflation calculated on the basis of the two consumer baskets followed roughly the same course of development until April. From May to September, however, the index of co-

re inflation based on the new basket exceeded the original value of the index. In the last months of the year, the two indices converged again. As a result of the lower weight of regulated prices in the new basket (compared with the recalculated weight of the old basket), the increase in CPI during the first half of 2001 was slower than in the case of the original basket. This difference was, however, reduced by the faster rise in core inflation in July and August.

Since the majority of items in the two baskets are identical and there were no significant changes in weights at the level of COICOP divisions, the different developments in price indices in some months were caused by a change in the weight structure at lower levels of aggregation. It may be that the weight of a sector in the new basket remains unchanged in comparison with the recalculated weight in the old basket, but the price increase in the sector will differ considerably. Assuming that the items of the given sector did not undergo a qualitative change, the difference in price increase would be caused by a weight shift within the sector in favour of an item with different price dynamics. An example is the course of prices in the category 'miscellaneous services' within the scope of regulated prices. Based on the old basket, prices in this category rose by 20% in 2001, and on the new basket by as much as 35%. The difference is caused by a fourfold increase in weight within the category in favour of the item 'compulsory insurance of vehicles', the price of which increased by almost 60% in 2001.

A more detailed analysis of the structure of the new consumer basket revealed the following facts for the estimation of inflation in the future:

- in the new consumer basket, the weight of the tradeable sector (excluding foodstuffs) increased in comparison with the converted weight of the old basket (for December 2000), to the detriment of the non-tradeable sector. With slower price dynamics in the tradeable sector, this could result in lower inflation;

- the inclusion of new items in the consumer basket has a dampening effect on the development of CPI. This is confirmed, for example, by a fall in the price of second-hand motor vehicles or stagnation in charges for the services of mobile phone networks in 2001;

- unprocessed foodstuffs (meat, fruit, vegetables) retained a high share in household expenditure in the new consumer basket. This means that the seasonal volatility of food prices will continue to cause a certain degree of uncertainty in forecasts of consumer prices;

- the weight of fuels in the new consumer basket increased by 1 percentage point. It may be assumed that the irregular development of fuel prices will according to the new consumer basket increase volatility to a greater extent than had been seen prior to 2001;

- the weight of some regulated prices in the new basket fell, which could result in lower inflation than in the case of the old basket if the process of deregulation continues. This me-

ans that the 7% increase in the price of heating contributed 0.3 of a percentage point to overall inflation in January 2002, which would be 0.6 of a percentage point with the old basket. A similar effect can be expected in the case of electricity prices and regulated rents. The opposite effect will occur in the case of a rise in the price of natural gas, whose weight in the new basket increased somewhat;

- an upward effect on inflation will be exerted in ensuing years by the harmonisation of excise duties on cigarettes and tobacco with EU directives. The weight of tobacco goods in the new basket increased by almost 50%. This means in prac-

tice that while the increase in excise duties in 2002 represents 0.4 of a percentage point in the new consumer basket, the same increase would have caused a 0.15 percentage point increase in consumer prices in the old basket.

Although revision of the consumer basket does not involve an unexpected impact on the level of overall and core inflation in 2001, the above examples indicate that it has a more significant effect on the development of price indices at lower levels of aggregation. Since the effect acts in the opposite direction in many cases, these effects offset each other to a considerable extent at the level of overall and/or core inflation.

**Table 1: Consumer prices in December 2001 based on the old and new baskets**

Structure of the consumer basket	Old basket		New basket	
	Recalculated weight, to Dec. 2000 <sup>2</sup>	Year-on-year inflation	Weight in Dec. 2000	Year-on-year inflation
<b>Total in %</b>	100.0	6.5	100.0	6.4
<b>Regulated prices in %</b>	24.3	17.2	21.1	18.8
<i>Share of total, in % points</i>	0.0	4.17		3.98
<b>Effect of changes in indirect taxes on non-regulated prices</b>		-0.03		-0.07
<b>Core inflation in %</b>	74.0	3.2	78.9	3.1
<i>Share of total, in % points</i>		2.39		2.46
of which: Food prices in %	22.5	3.7	21.4	4.0
<i>Share of total, in % points</i>		0.83		0.86
Foodstuffs – processed in % <sup>1</sup>	12.6	4.8	12.0	4.6
<i>Share of total, in % points<sup>1</sup></i>		0.60		0.55
Foodstuffs – non-processed in % <sup>1</sup>	9.9	2.3	9.4	3.2
<i>Share of total, in % points<sup>1</sup></i>		0.23		0.30
Tradeable goods in % <sup>1</sup>	35.6	1.0	39.5	0.6
<i>Share of total, in % points<sup>1</sup></i>		0.35		0.23
Tradeable goods excl. fuels in % <sup>1</sup>	32.9	2.3	35.3	2.2
<i>Share of total, in % points<sup>1</sup></i>		0.75		0.77
Fuels in % <sup>1</sup>	2.6	-15.6	4.2	-12.9
<i>Share of total, in % points<sup>1</sup></i>		-0.41		-0.54
Market services in % <sup>1</sup>	15.8	7.7	18.0	7.6
<i>Share of total, in % points<sup>1</sup></i>		1.22		1.37
<b>Core inflation (excluding fuels) in %<sup>1</sup></b>	71.3	3.9	74.7	4.0
<i>Share of total, in % points<sup>1</sup></i>		2.80		3.00
<b>Net inflation (excluding the effect of changes in indirect taxes) in %<sup>1</sup></b>	51.5	3.0	57.5	2.8
<i>Share of total, in % points<sup>1</sup></i>		1.56		1.60
<b>Net inflation (excluding fuels and the effect of changes in indirect taxes) in %<sup>1</sup></b>	48.8	4.0	53.3	4.0
<i>Share of total, in % points<sup>1</sup></i>		1.97		2.14
<b>Core inflation in % – methodology of EUROSTAT<sup>1</sup></b>	61.4	4.2	65.3	4.1
<i>Share of total, in % points<sup>1</sup></i>		2.57		2.69

Source: Statistical Office of the SR

<sup>1</sup> Calculated by the NBS on the basis of data from the Statistical Office of the SR.

<sup>2</sup> The sum of the weights is not equal to 100 because of adjustment for changes in indirect taxes.

Processed foodstuffs – prices in the categories: 1. bread and cereals; 2. milk, cheese, eggs; 3. oil and grease; 4. sugar, jam, honey, syrup; 5. other.

Unprocessed foodstuffs – prices in the categories: 1. meat; 2. fish; 3. fruit; 4. vegetables.

Net inflation – includes price increases in the sectors of tradeable goods (excluding foodstuffs) and market services.

Net inflation (excluding fuel prices) – net inflation adjusted for the effect of fuel prices.

Core inflation – methodology of EUROSTAT – core inflation excluding the prices of unprocessed foodstuffs, fuels, and lubricants.



Table 2: Structure of the consumer baskets of 1995 and 2002

– not adjusted for changes in indirect taxes

in %

(December 2000 =100)

	Const. 1995 weights (old basket)	Recalculated weights, Dec. 2000	Const. 2000 weights (new basket)	Difference in weight	Increase in 2001 prices (old basket)	Increase in 2001 prices (new basket)	Difference in price increase
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>	<b>106.5</b>	<b>106.4</b>	<b>-0.16</b>
<b>1 Tradeable goods</b>	<b>66.9</b>	<b>59.9</b>	<b>60.9</b>	<b>1.0</b>	<b>101.9</b>	<b>101.7</b>	<b>-0.24</b>
<b>11 Foodstuffs</b>	<b>26.8</b>	<b>23.3</b>	<b>21.4</b>	<b>-1.9</b>	<b>103.6</b>	<b>104.0</b>	<b>0.45</b>
Bread and cereals	4.1	3.9	4.0	0.1	109.0	108.4	-0.58
Meat	8.1	6.8	6.0	-0.8	100.7	101.2	0.57
Fish	0.5	0.5	0.7	0.2	108.3	110.7	2.37
Milk, cheese, eggs	4.9	4.7	4.1	-0.7	102.2	102.6	0.38
Oil and grease	1.8	1.4	1.3	-0.1	100.0	99.7	-0.35
Fruit	2.1	1.7	1.4	-0.2	110.4	112.3	1.95
Vegetables incl. potatoes	1.7	1.3	1.3	0.0	97.5	98.7	1.21
Sugar, jam, honey, syrup, chocolate, sweets	2.5	2.1	1.8	-0.2	106.4	105.7	-0.76
Other	1.1	0.9	0.8	-0.1	101.8	101.5	-0.25
<b>12 Other tradeables</b>	<b>40.2</b>	<b>36.6</b>	<b>39.5</b>	<b>2.9</b>	<b>100.9</b>	<b>100.4</b>	<b>-0.47</b>
Non-alcoholic beverages	2.4	1.8	2.2	0.4	99.7	99.4	-0.30
Alcoholic beverages	2.6	2.1	4.0	2.0	102.1	102.5	0.42
Tobacco	1.9	2.1	2.9	0.8	103.4	106.2	2.81
Clothing	8.1	7.2	5.3	-1.9	102.2	102.1	-0.09
Footwear	2.5	2.5	2.0	-0.5	105.6	106.0	0.38
Dwelling	0.7	0.8	2.0	1.2	100.3	104.5	4.28
Furniture	5.7	5.0	5.0	0.1	100.4	99.6	-0.80
Transport	6.8	6.4	6.2	-0.2	94.6	90.9	-3.66
Recreation and culture	6.3	6.0	5.4	-0.6	102.5	100.1	-2.45
Miscellaneous	3.1	2.8	4.3	1.5	102.8	103.2	0.43
<b>2 Non-tradeable goods</b>	<b>33.1</b>	<b>40.1</b>	<b>39.1</b>	<b>-1.0</b>	<b>113.4</b>	<b>113.7</b>	<b>0.26</b>
<b>21 Regulated prices</b>	<b>17.8</b>	<b>24.3</b>	<b>21.1</b>	<b>-3.1</b>	<b>117.2</b>	<b>118.8</b>	<b>1.64</b>
Dwelling	9.9	16.0	11.6	-4.4	120.0	117.7	-2.27
Health care	1.3	1.4	1.5	0.1	101.8	103.9	2.13
Transport	2.6	2.8	2.3	-0.5	114.1	121.0	6.94
Recreation and culture	0.4	0.4	0.5	0.1	100.0	100.0	0.00
Education	0.7	0.5	0.3	-0.1	100.7	99.7	-0.98
Hotels, cafes, restaurants	1.1	1.1	1.6	0.6	111.1	113.3	2.24
Miscellaneous	1.8	2.2	3.3	1.1	120.1	135.2	15.09
<b>22 Market services</b>	<b>15.2</b>	<b>15.8</b>	<b>18.0</b>	<b>2.2</b>	<b>107.6</b>	<b>107.6</b>	<b>-0.02</b>
Clothing	0.3	0.3	0.1	-0.2	106.3	105.7	-0.57
Footwear	0.1	0.1	0.0	-0.1	107.0	107.0	0.02
Dwelling	5.9	6.4	7.9	1.5	108.8	108.5	-0.29
Furniture	0.2	0.2	0.1	-0.1	104.1	103.8	-0.21
Transport	0.6	0.8	0.7	0.0	105.1	103.5	-1.60
Recreation and culture	1.8	2.1	1.3	-0.8	110.4	110.1	-0.21
Education	0.6	0.6	0.2	-0.4	107.5	107.6	0.19
Hotels, cafes, restaurants	3.9	3.6	5.6	2.0	106.3	107.8	1.51
Miscellaneous	1.9	1.7	1.9	0.3	104.6	103.5	-1.09
<b>Inflation rate, adjusted for regulated prices (11+12+22)</b>	<b>82.2</b>	<b>75.7</b>	<b>78.9</b>	<b>3.1</b>	<b>103.1</b>	<b>103.0</b>	<b>-0.09</b>
<b>Regulated prices:</b>							
Electricity	2.0	4.1	3.6	-0.5	116.2	116.2	-0.04
Heating	3.5	6.2	4.1	-2.2	120.0	120.0	0.03
Natural gas	1.5	1.9	2.3	0.4	117.9	111.7	-6.18
Railway traffic	0.3	0.4	0.3	0.0	112.8	109.1	-3.69
Bus transport	1.2	1.2	1.3	0.1	120.2	130.8	10.56
Water + sewage disposal	0.7	1.1	0.7	-0.4	120.3	120.3	0.00
Postal services	0.1	0.1	0.2	0.1	108.9	109.0	0.07
Telecommunications	1.2	1.5	2.2	0.7	124.3	136.1	11.85
Rents	1.3	1.4	0.5	-1.0	138.4	139.4	1.01
<b>Regulated prices in total</b>	<b>11.8</b>	<b>17.9</b>	<b>15.2</b>	<b>-2.7</b>	<b>120.6</b>	<b>121.9</b>	<b>1.36</b>