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Georgian Consumer Prices**



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The Measurement and Development of Georgian Consumer Prices

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Editor's Remarks

The paper presented was written during a three-week study trip of the author to the Georgian capital Tbilisi in September and October 1999. I should acknowledge that she financed all expenses necessary herself.

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November, 1999

Hans Gerhard Strohe

PREFACE

Price statistics is a very sensible and sensitive issue of official statistics. On one hand, it supplies the government and the society with important information due to the measurement of inflation rate. The latter is an important early indicator for the economic performance of a country. On the other hand, changes especially in consumer prices are strongly noticed by all members of the society.

There is a need for rapid information on price statistics especially in transition countries. Many loans are based on stable inflation rates. Stable prices or even a stable price level are recorded as a cornerstone of economic stability.

In Georgia, one notices two main tendencies in official statistics. Firstly, the independent state Georgia would like to develop statistical methods related to international standards recommended by the IMF, ILO or EUROSTAT. Secondly, there is a strong striving for becoming distant from old Soviet methods and camouflage tactics of official statistics.

This paper presents in the first section a methodological introduction concerning statistics of consumer prices in Georgia. The second section gives a general idea of the development of consumer prices from January 1994 till September 1999. A detailed regional analysis is added in section 3. The fourth section analyses the development of consumer prices for the eight main groups included in the total CPI. Section 5 compares the changes in Georgian CPI with the movements of foreign exchange rates in Georgian Lari. This paper ends with a summary including a short outlook to the next years.

1. METHODOLOGICAL INTRODUCTION

DALÉN, J. (1991) distinguishes four steps in calculating consumer price indices. First, one has to formulate the ideal goal. This could be inflation or, alternatively, a constant utility price index. The latter concept, also called a cost of living index, measures the change in the minimum cost of living of a representative consumer or household necessary to retain the same standard of living or "utility". Since inflation is only a general notion and utility cannot be measured, a certain index formula should be chosen as a second step. Such a formula is a mathematical expression where the prices and quantities of all goods and services come into play. Index numbers theory gives some guidance as to the proper choice. DIEWERT, W. E. (1976) shows that there exists a class of index formulas, called superlative indices, that provide second order approximations of the (true) cost of living index. The most important feature of superlative price indexes is the consideration of substitution away from goods and services exhibiting relatively large price increases. It should not come as a surprise that these index formulas make use of quantity or expenditure data relating to both a base period and the current period. In practice it takes some time before quantity or expenditure data are known. Independence of the CPI from time, which is generally viewed as an important aspect of its quality, leads most national statistical offices to adopt the Laspeyres price index in the third step as their target index or object of estimation. The popular Laspeyres index employs only base period quantity or expenditure data. After aggregating all commodities into subgroups and groups, the Laspeyres index can be written as a weighted average of various commodity group price indices, with the weights reflecting base period expenditure shares. In the fourth step, sampling procedures are needed to estimate the population value. Ideally, the mean square error of the estimator should be minimised.

In Georgia official statistics chose the Laspeyres formula, too. It compares prices for a fixed base period basket of goods and services with the current prices of the same basket. Next, statistics has to define a fixed basket of commodities. Table 1 gives a general idea of the quantity of items within the Georgian consumer basket.

Tab. 1: **Quantity of goods and services within the Georgian CPI**

	1993	1994	1997
Items	(302)	295	296

Source: interviews with representatives from State Department for Statistics of Georgia

In 1993, the State Department for Statistics of Georgia started with the registration of prices for 302 items. It did compute only individual index numbers for each of them. The State Department for Statistics of Georgia collected prices for 296 goods and services till 1994. It extended this number to 296 items in 1997. The single items of goods and services can be distinguished in eight main groups:

1. Food, beverages, and tobacco
2. Clothing and footwear
3. Rent, water, fuel, and power
4. Household goods
5. Medical care
6. Transportation and communication
7. Recreation, education, and culture
8. Personal care and effects.

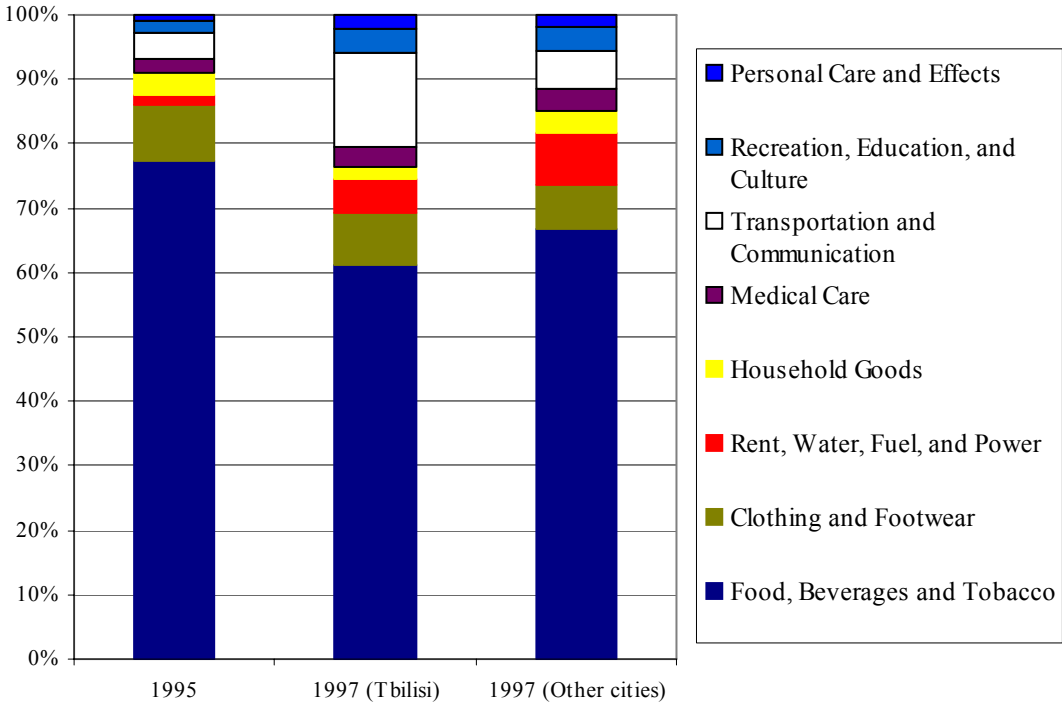
There are 105 items within the category of food, beverages and tobacco, 53 items for clothing and footwear, 21 items for rent, water, fuel, and power, 33 items for household goods, 13 items for medical care, 23 items for transportation and communication, 27 items for recreation, education, and culture and at least 21 items for personal care and effects.

In principle, this number has been unchanged since 1997. But the State Department for Statistics of Georgia makes tiny actualisation in the case of important shifts in consumers behaviour and/or preferences. Last year, for example, it included photographical services because of the increasing number of photoshops all over Georgia.

Normally, consumer prices have to be collected every month, but during transition periods often there is a need for rapid information due to high inflation rates. The State Department for Statistics of Georgia started almost weekly registrations for prices of food stuff such as vegetables and fruits. It ascertains this prices three times a month. It measures the prices of other goods and services once a month.

After choosing a fixed basket of goods and services and after registering individual price numbers one needs a weighting matrix for aggregating the individual index numbers of single goods and services up to indices for commodity subgroups, main groups and at least up to an index including all items. One ascertains different weights due to the different importance of each good and service for the preservation of a defined standard of living. Figure 1 shows the weighting structure of the Georgian CPI. It is based on the yearly survey on family budgets which is carried out in December.

Fig. 1: Weighting structure for the 8 main groups of goods and services



Source: data from the State Department for Statistics of Georgia

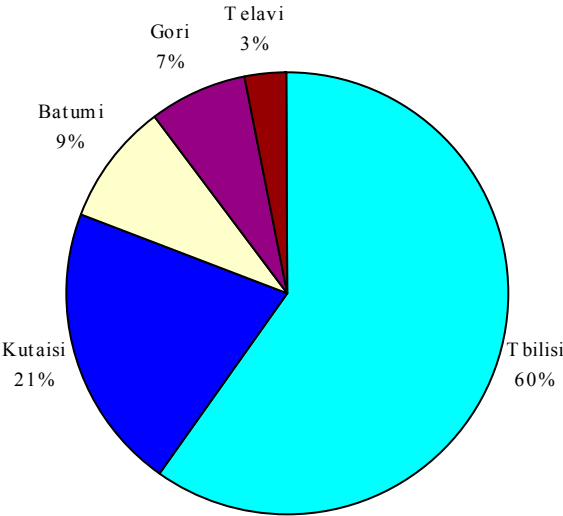
The State Department for Statistics of Georgia used a uniform weighting matrix for all regions of Georgia until 1997. The most important category in the Georgian CPI was food, beverages, and tobacco. It had an expenditure share of around 77.4% in 1995. The four most important subgroups within this category were fruits and vegetables (16.5% of the total CPI), bread and cereals (16.1%), oils and fat (12.1%), and meat, poultry, and fish (10.1%). The expenditures for clothing and footwear had a share of 8.6%. Next, there were transportation and communication (4.0%), and household goods (3.3%). The other four categories were relative unimportant due to lower expenditure weights. Each of them had an expenditure share of less than 2.5%. In summary, these last four groups had a share of less than 10% of the total household expenditures.

Georgian official statistics estimated two different weighting matrices in 1997: one for the capital Tbilisi and a second uniform one for the other four cities. This seems to be plausible and useful because of totally different consumers behaviour, preferences, and market situations. Nevertheless, the category of food, beverages, and tobacco is still the most important position of expenditures in both weighting schemes. It decreased to an expenditure share of 61.0% in Tbilisi and to 66.7% in the other cities. There were large differences between the shares of transportation and communication in both weighting matrices.

Transportation and communication had a share of 14.4% in Tbilisi, the share increased to 5.9% in the other cities. This was caused by different importance of public transportation. Public transportation took 11,0% of the total households expenditures in Tbilisi, and only 3.2% in the other cities. The opposite occurred to the expenditure shares of rent, water, fuel, and power. The share of this category increased to 5.3% for Tbilisi and 7.9% for the other cities in 1997, compared to a share of 1.7% in the unique weighting scheme in 1995. The weights of clothing and footwear were relative stable. In 1995, it had a share of 8.6% of the household expenditures. Its share increased to 8.2% in Tbilisi and to 7.0% in the other cities in 1997. The summarised share of the other four groups increased from 8% in 1995 to 11.1% for Tbilisi and 12.3% for the other cities in 1997.

Next, one needs regional weights for the computation of indices for the whole area of Georgia. The CPI for the whole area is a weighted average of the regional results. The regional weighting structure is shown in figure 2.

Fig. 2: Regional weighting structure for the Georgian CPI



Source: population data of the regions; data from the State Department for Statistics of Georgia.

The estimations for Tbilisi have a stronger influence on the total CPI of Georgia than the other regions due to a higher population. Tbilisi has a regional weight of 59.9%. (It has to be

emphasised that each city includes the population of the other urban areas of the region.) Kutaisi has a regional share of 20.9%, Batumi 9.0%, Gori 7.1% and at least Telavi 3.1%. A more detailed regional analysis follows in section 3.

There are additional problems beside these general described above. There were different price notations until the implementation of the Georgian Lari in October 1995. The Georgians had to pay administratively priced goods and services in Coupons of the National Bank of Georgia. An administratively priced good was such as bread. The Georgian consumer had to pay other goods and services in Russian Rubels. Books, furniture, and clothing, for instance, were priced in Russian Rubels. The prices for these goods and services strongly depended on the exchange rates of Georgian Coupons, because these prices had to be converted from Russian Rubels into Coupons of the National Bank of Georgia for prices statistics. Administratively prices were registered in Coupons. Therefore the depression of Georgian Coupons directly led to high increases in prices especially for food, transportation and public utilities in September 1994. There has been established an unique price notation in Georgian Lari since October 1995. It makes work easier for official price registration. Nevertheless, there is a large share of imported goods which prices directly depend on the exchange rates of foreign currencies such as US dollar or the German Mark. Prices of several goods, such as cars, have been paying directly in US dollar.

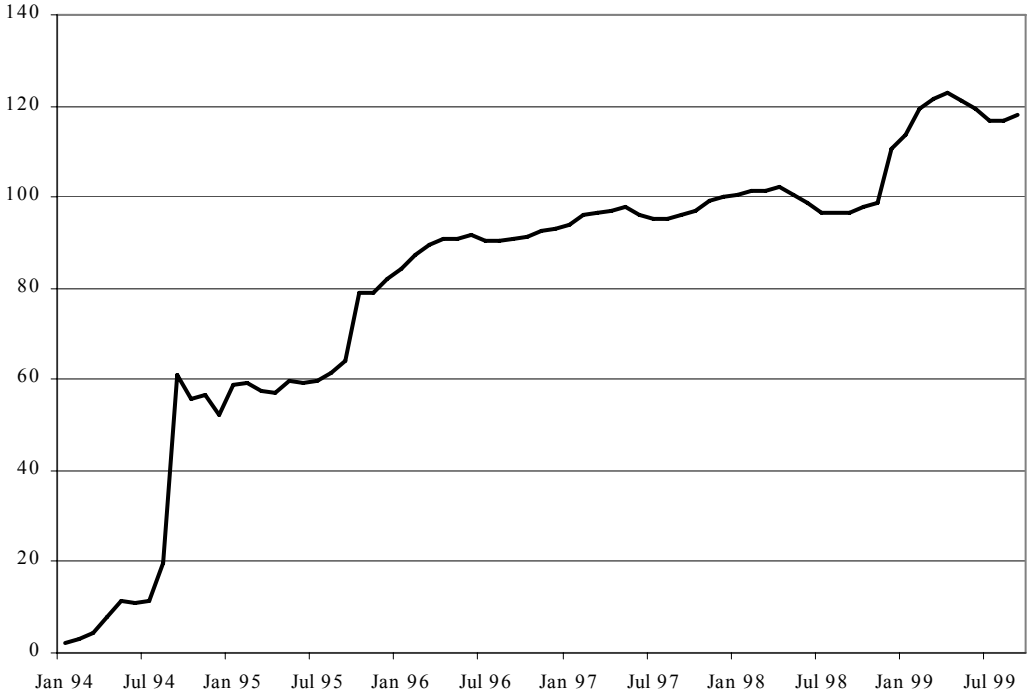
Payments for rents, for example, have only a symbolic character. There is a huge share of shadow economy and barter transactions. All this points are customary for transitional countries and are summarised for the case of Russian price statistics in STROHE/FABER (1999) and FABER/STROHE (1999).

2. THE DEVELOPMENT OF GEORGIAN CPI FROM 1994 TILL 1999

This section emphasises a general idea of the development of consumer prices in Georgia from January 1994 till September 1999. Firstly, it deals with the index level compared to December 1997. Secondly, it analyses more detailed the changes in consumer prices over the previous month.

Figure 3 shows the development of Georgian CPI from January 1994 till September 1999. The index of consumer prices is shown compared to a base period December 1997 = 100.

Fig. 3: CPI of Georgia (Dec. 1997=100)



Source: data from the State Department for Statistics of Georgia

Since January 1996 the changes in Georgian CPI has been developing relatively monotonous after two years of turbulent leaps in consumer prices from 1994 till 1995.

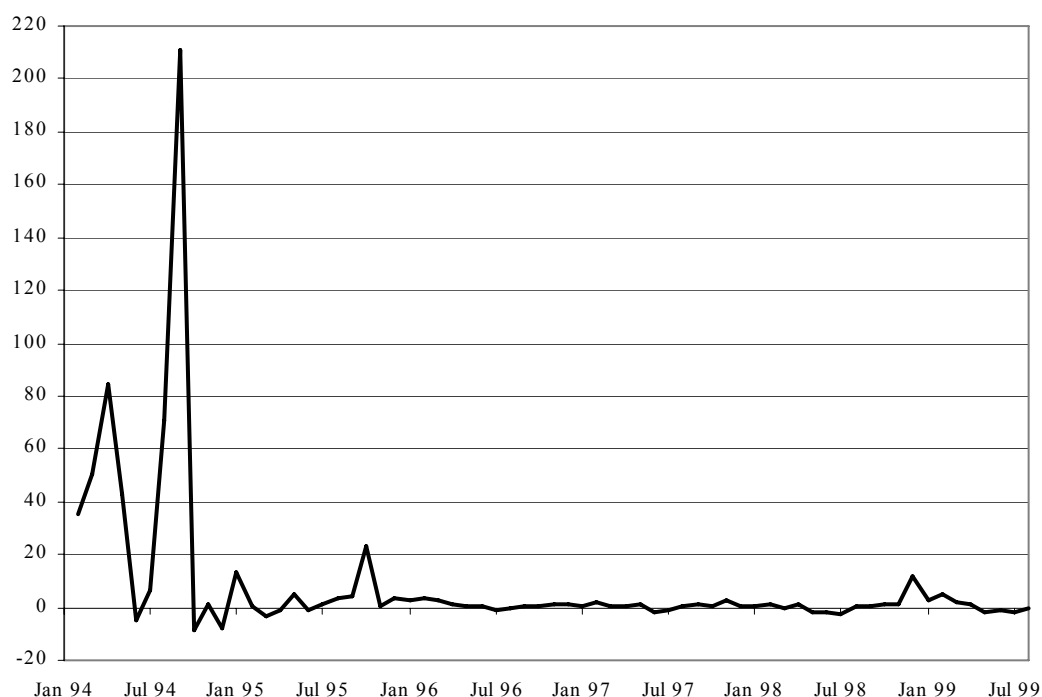
There were four main turning points in the development of the Georgian CPI. The first one occurred in April 1994. The total CPI went from 4.3 in March 1994 up to 8.0 in April 1994.

Next, the total index jumped from a level of 20 in August to a level of 60.9 in September 1994. Both movements were caused by high changes in the exchange rates of Russian Rubels in Coupons of the National Bank of Georgia. At this time, the bulk of goods and services had to be paid in Russian Rubels. One only got administratively priced goods (such as bread) directly for Georgian Coupons. The total CPI went down to a level of 52 in December 1994. The next heavy upward movement started in October 1995. At this time, Georgia implemented its own currency, the Georgian Lari. Since October 1995 all prices has been paying and collecting in Lari. Official statistics has been measuring prices of only one currency since that date. The fourth leap one can observe in December 1998. The CPI went up from a level of 98.7 in November 1998 to a level of 110.7 in December 1998. This jump in consumer prices was based on after-effects of the financial crisis of Russia in autumn 1998. The Worldbank and the IMF cut international credits to the government due to the moderate financial budget situation. This heavily influenced the exchange rates of the Russian Rubel and the US dollar in Georgian Lari in December 1998 and so the prices of goods which have to be paid in US dollar such as cars.

Figure 4 gives a general idea of changes in Georgian CPI over the previous month. It shows the development from February 1994 till September 1999.

There are shown the same peaks like in figure 3. In April 1994 the monthly change in total CPI was more than 80% over March 1994. The highest leap of the Georgian CPI was five month later in September 1994. At this time, the Georgian CPI soared by 211% compared to the previous month. The CPI went up by 23.4% in October 1995 after a jump in consumer prices by 13.0% in January 1995 and weak decreases in CPI development in March, April and June 1995. There has been only weak changes in Georgian consumer prices since the implementation of the national Georgian currency, the Lari, in October 1995. The CPI again jumped by more than 12% in December 1998. This development was caused by the consequences of the Russian financial crisis in autumn 1998. There has been only small changes in the development of the Georgian consumer prices since January 1999. The average monthly inflation rate of this year is less than 1% compared with the previous month.

Fig. 4: CPI of Georgia (changes over the previous month)



Source: data from the State Department for Statistics of Georgia

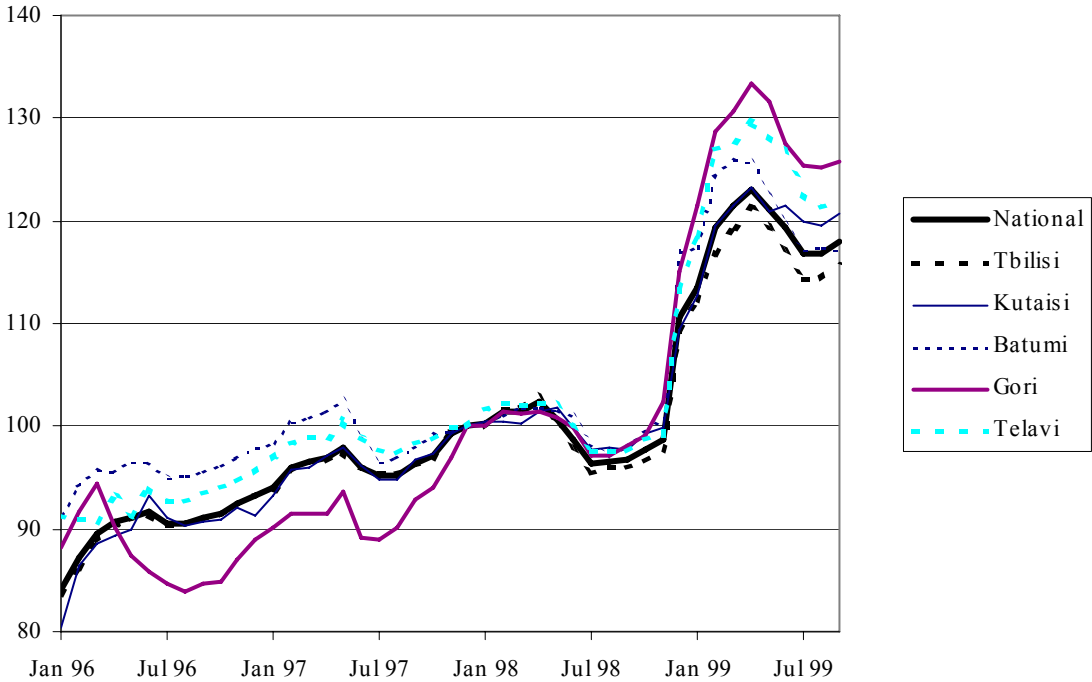
The changes in Georgian consumer prices are relative stable four years after implementing the Georgian Lari. The average monthly inflation rate decreased from 3.9% over the previous month in 1995 to 1.1% in 1996, and 0.6% in 1997. The average monthly changes in the Georgian consumer prices increased to 0.9% in 1998 because of high changes in December 1998. The development of Georgian CPI again decreased to 0.7% per month till September 1999.

3. DEVELOPMENT OF REGIONAL INDICES OF CONSUMER PRICES IN GEORGIA

One would expect large differences in regional indices of consumer prices due to totally different consumer behaviour and/or preferences and market situations in Georgia. This section analyses the regional movements of consumer prices. It compares the developments in Tbilisi, Kutaisi, Batumi, Gori and Telavi with the movements in national CPI. The regional results include estimations for the other urban areas of the regions, too.

The whole Georgian CPI is computed as a weighted average of these regional results. The regional weighting structure already has been discussed above in section 1. Figure 5 gives an idea of the development of regional CPIs from January 1996 till September 1999. All results are based on December 1997 = 100.

Fig. 5: Regional indices of consumer prices (Dec. 1997=100)

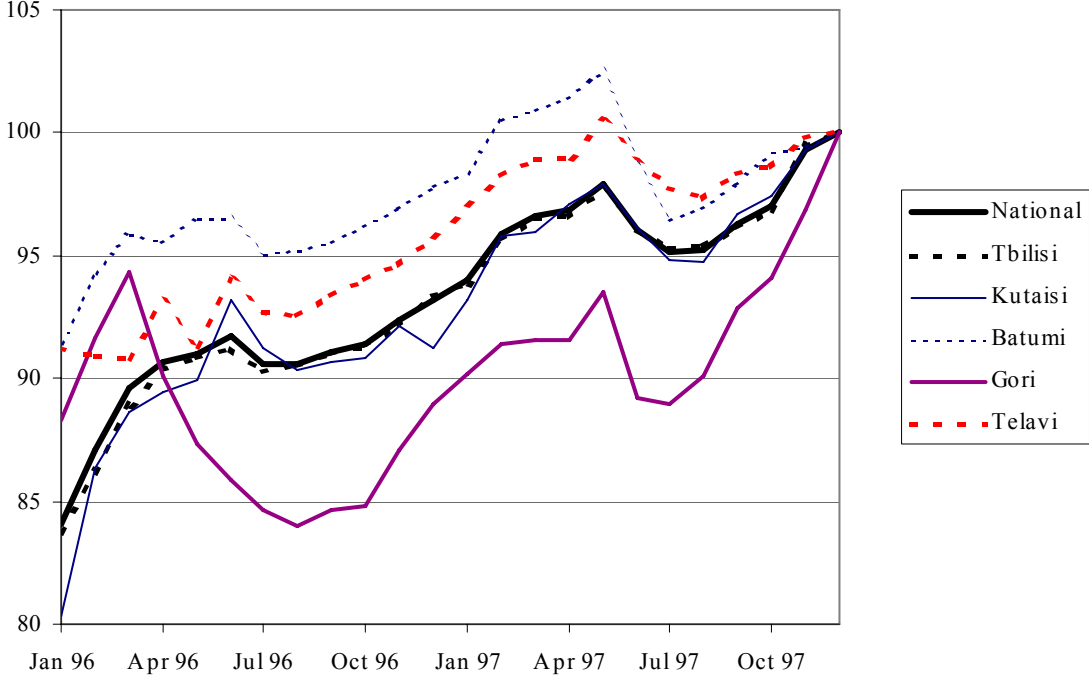


Source: data from State Department for Statistics of Georgia

Figure 5 clearly shows that there are regional differences in CPI movement. The changes in CPI of the capital Tbilisi are closely connected to the total CPI of whole Georgia. The next

two figures show the same development separated in two periods of time. Figure 6 emphasises the movement in regional CPI from 1996 till 1997. Figure 7 deals with the period from 1998 to 1999. Due to different scales one gets a better idea of the differences between the regional CPI developments.

Fig. 6: Regional indices of consumer prices from 1996 till 1997 (Dec. 1997=100)



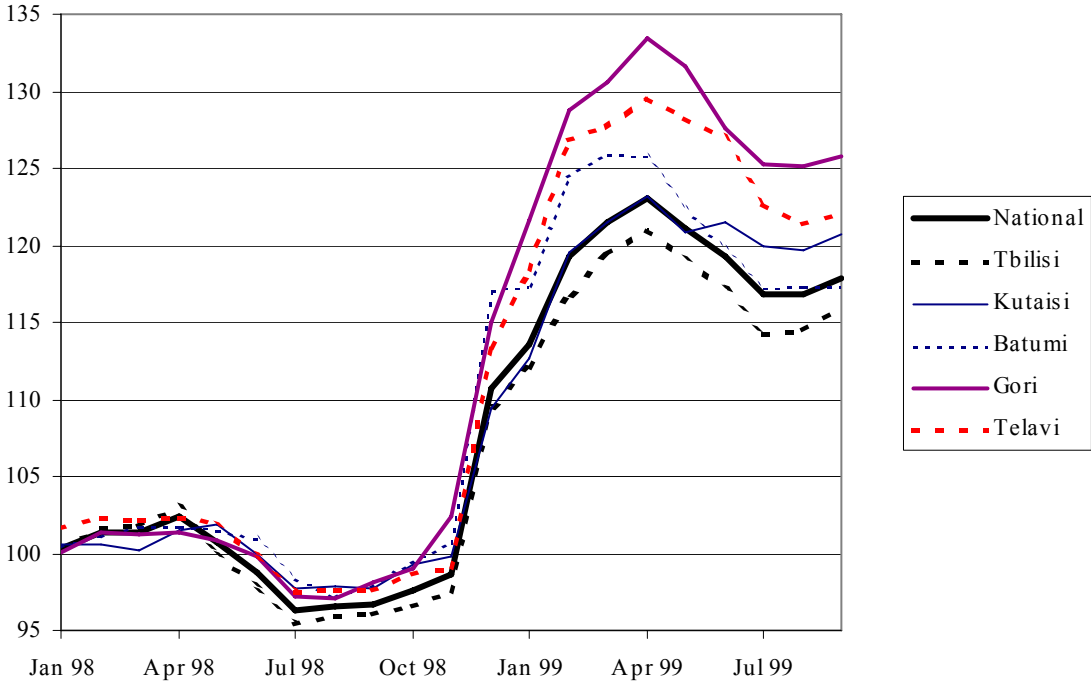
Source: data from State Department for Statistics of Georgia

The level of the consumer price index of Tbilisi was nearly identical to the national one from January 1996 till December 1997. There was only a small distance between them during the first half of 1996, but these differences were not higher than one index point. Almost the same occurred in the development of CPI in Kutaisi. It started from a lower level (80.3 for Kutaisi instead of 84.1 for the national CPI) in January 1996, then it developed closely beneath the national level of CPI. There were peaks above the national level in June and July 1996. This was caused by higher increases in consumer prices of Kutaisi in June and higher decreases in July compared to the national development. On the opposite, the CPI levels of Telavi and Batumi were always higher than the national one due to higher decreases in Telavi and lower increases in Batumi. The level of the CPI of Batumi is higher than 100 from February till May 1997. That means, during this time the prices were higher than prices in December 1997 (the

base period). The CPI of Telavi was higher than 100 in May 1997. A very different pictures can be seen in Gori. There were three main peaks in March 1996, in May 1997 and in December 1997. The CPI level of Gori was higher than the national one from January till March 1996. The national and the level of Gori were nearly the same in April 1996. The level of CPI in Gori has been always below the national level since May 1996. There were differences of more than five index points between them. The high increase in consumer prices of Gori led to a smaller difference between the national CPI and the CPI of Gori in May 1997, but a higher decrease led to the opposite in June 1997.

All regional levels of CPI are defined to be 100 in December 1997. Figure 7 shows the further development from January 1998 till September 1999.

Fig. 7: Regional indices of consumer prices from 1998 till 1999 (Dec. 1997=100)



Source: data from State Department for Statistics of Georgia

There were only small regional differences from January 1998 till November 1998. One can see low increases in CPI during the first quarter of 1998 followed by decreases during the second quarter. There has been low increases again since August 1998. The level of CPI increased to approximately 100 for all regions in November 1998. The regional CPI levels

went apart from each other from December 1998 till April 1999. The CPI developments of Telavi and Batumi were again above the national level. The CPI of Gori was above the national level and higher than the CPI levels in Telavi and Batumi, too. It had the greatest distance from the national development due to higher changes in regional consumer prices from December 1998 till February 1999. The level of CPI of Tbilisi was below the national one. The regional levels still has been going closer together since May 1999.

The developments of CPI of Tbilisi and Kutaisi were closely connected to the national movement of consumer prices during the last four years. This is not surprisingly due to the high weights of this two regions within the whole Georgian CPI caused by the high population. The changes in CPI levels of Telavi and Batumi were lower than the national one from January 1996 till December 1997. The regional differences were relatively low from January 1998 till November 1998. They spread apart in the first third of 1999 and has been going closer together since May 1999. The changes in consumer prices were relatively high in the other three regions (Gori, Telavi and Batumi). Especially the changes in the consumer prices of Gori were high in the first half of 1999. Table 2 shows the average monthly changes in CPIs from 1996 to September 1999.

Tab. 2: Average monthly changes in regional CPI (changes over the previous month)

	National	Tbilisi	Kutaisi	Batumi	Gori	Telavi
1996	1.1%	1.1%	<i>1.3%</i>	0.8%	0.5%	0.7%
1997	0.6%	0.6%	0.8%	0.2%	<i>1.0%</i>	0.4%
1998	0.8%	0.8%	0.7%	<i>1.3%</i>	1.2%	1.0%
1999 (till Sep)	0.7%	0.6%	<i>1.1%</i>	0.0%	1.0%	0.8%

Source: data from the State Department for Statistics of Georgia

The average monthly changes in regional CPI of Kutaisi were high compared to the other regions in 1996. This was caused by higher jumps in February and June 1996. The average monthly changes were relatively low in Gori in 1996 because of higher decreases from April till August 1996. The opposite occurred in 1997. The average monthly changes were high in Gori due to high increases in the second half of 1997. They were low in Batumi caused by

higher decreases compared to the other regions in June and July 1997. In 1998, the average monthly changes in regional CPI were high in Batumi. The CPI of Batumi soared by more than 16% in December 1998. At the same time the other regional indices increased by 10 till 14%. In 1999 the monthly changes are high in Kutaisi due to a small increase compared to decreases in the other region in June 1999 and a lower decrease compared to the other regions in July 1999.

4. THE DEVELOPMENT OF GEORGIAN CPI FOR MAIN GROUPS OF GOODS AND SERVICES

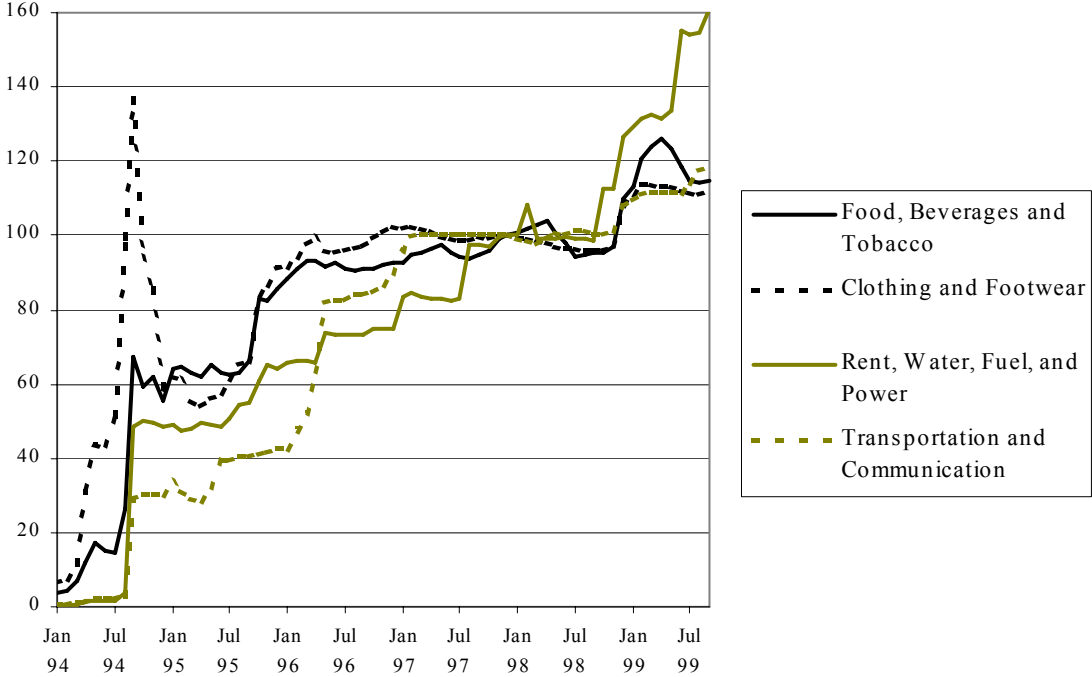
The Georgian index of consumer prices is computed as a weighted averages of the consumer price indices of eight main groups. These main groups are

- (1) food, beverages, and tobacco
- (2) clothing and footwear
- (3) rent, water, fuel, and power
- (4) household goods
- (5) medical care
- (6) transportation and communication
- (7) recreation, education, and culture; and
- (8) personal care and effects.

Their different weights due to expenditure shares have been discussed above in section 1. This section analyses the development of each main group of goods and services. Then the first and most important category of food, beverages, and tobacco will be analysed in detail since its expenditure share within the Georgian index including all items is the largest.

Figure 8 shows the development of the consumer prices indices for the four most important commodity groups due to expenditure shares. These are food, beverages, and tobacco; clothing and footwear; transportation and communication; and at least rent, water, fuel and power. All results are based on December 1997=100. It does not seem to be useful to show the movements of all eight main groups in only one figure because of the relative high number of lines. Therefore, there is the need to separate them into two or more parts. Firstly, one gets an idea of the development of the four most important categories of the Georgian CPI. Secondly, one looks to the other four groups.

Fig. 8: CPI of food, beverages, and tobacco, clothing and footwear, transportation and communication, and rent, water, fuel, and power (Dec. 1997=100)



Source: data from State Department for Statistics of Georgia

Figure 8 clearly shows differences between the four most important groups of goods and services. The changes in consumer prices for all four groups were strongly influenced by the depression of Georgian Coupons in the middle of 1994. The changes seem to be extremely high for clothing and footwear. The CPI for clothes and footwear soared from a level of 11.3 in March 1994 up to 137 in September 1994. It did not return to the level of food, beverages and tobacco until December 1994. The CPI for food, beverages and tobacco started from a level of 6.9 in March 1994 and went up to 67.2 in September 1994. In September 1994, it reached a level of ten times over March 1994. That was no fewer than the changes in consumer prices for clothing and footwear. The CPI for rent, water, fuel, and power jumped from 0.6 to 48.2 at the same time. That means, the CPI for this group reached a level of more than 80 times within half a year. The CPI for transportation and communication went from 0.9 in March 1994 up to 29.4 (a level of 30 times) in September 1994. The next external influence on the consumer prices was the implementation of the Georgian Lari in October 1995. It had only a small influence on the CPI of transportation and communication. The CPI for this group increased only by 1.4 percent. However, the Georgian Lari strongly influenced the three other consumer prices indices. In October 1995, the CPI for clothing and footwear

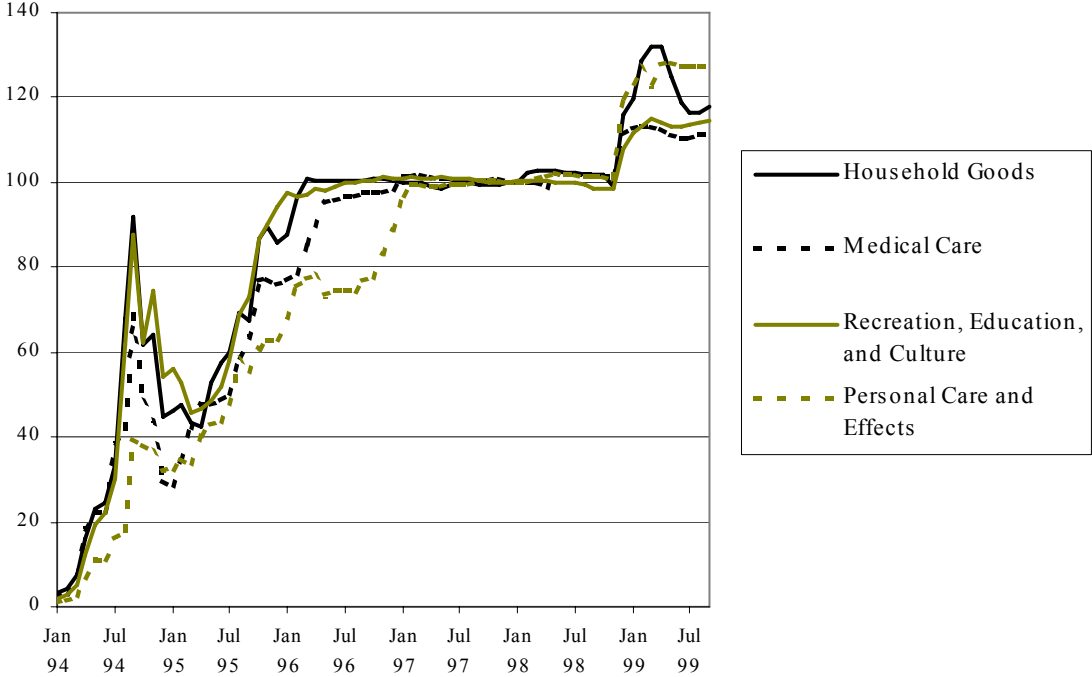
increased by 28.6% over the previous month.. The CPI for food, beverages and tobacco went up by 24.6%. The prices of rents, water, power and fuel increased by 10.9%. There were large changes in the CPI of transportation and communication from February 1996 till May 1996. The CPI of this category increased from a level of 47.2 in February 1996 to 81.2 in May 1996. There were gradual increases in the CPI of rent, water, fuel, and power. It went up by about 12% over the previous month in May 1996, 11% in January 1997, 18% in August 1997, 8% in February 1998, and 14% in October 1998. The Russian financial crisis influenced all groups of the Georgian CPI in December 1998. The CPI of food, beverages and tobacco jumped by 13.5% compared to the previous month in December 1998. The CPI of rent, water, fuel, and power increased by 12.5%. The CPI of clothing and footwear went up by 11.3%. The influence on the CPI of transportation and communication was relatively small. It increased by 6.9% over November 1998. The changes in consumer prices have been small since January 1999. Only in the CPI of rent, water, fuel, and power, there was again a leap of 16.2% compared to the previous month in June 1999.

Figure 9 shows the development of CPI for the other four groups within the Georgian CPI. These are household goods, medical care, recreation, education and culture and at least personal care and effects. They are based on December 1997 = 100, too.

These four groups of goods and services were strongly influenced by the depression of the Georgian Coupons, too. The CPI of recreation, education and culture soared from a level of 5.3 in March 1994 to 87.7 (a level of 17 times) in September 1994. The CPI of personal care and effects increased from a level of 2.5 to 39.6 (16 times) within the same time. The CPI of household goods jumped from a level of 7.5 in March to 92.1 (12 times) in September. The CPI of medical cares went from a level of 7.5 up to 68.7 (9 times). There were large decreases in the CPI of these groups from October 1994 till December 1994. Next, there were large increases in the CPI of medical care in February and March 1995, the CPI of this group went from a level of 23.3 in January up to 41.9 in March 1995. All four indices jumped by 15 till 20% over the previous month in August 1995. The implementation of the Georgian Lari again led to changes in October 1995. The CPI of household goods soared by 28.8% over the previous month in October 1995. The CPI of medical care jumped by 22.2% compared to the September 1995. The prices of recreation, education and culture changed by 19.0% in October 1995. The CPI of personal care and effects only went up by 9.8% at this time.

The prices of personal care and effects jumped by 7% over the previous month in January 1996, by 11% in February and by around 7% in both November and December 1996.

Fig. 9: CPI of household goods, medical care, recreation, education, and culture, and personal care and effects (Dec. 1997=100)

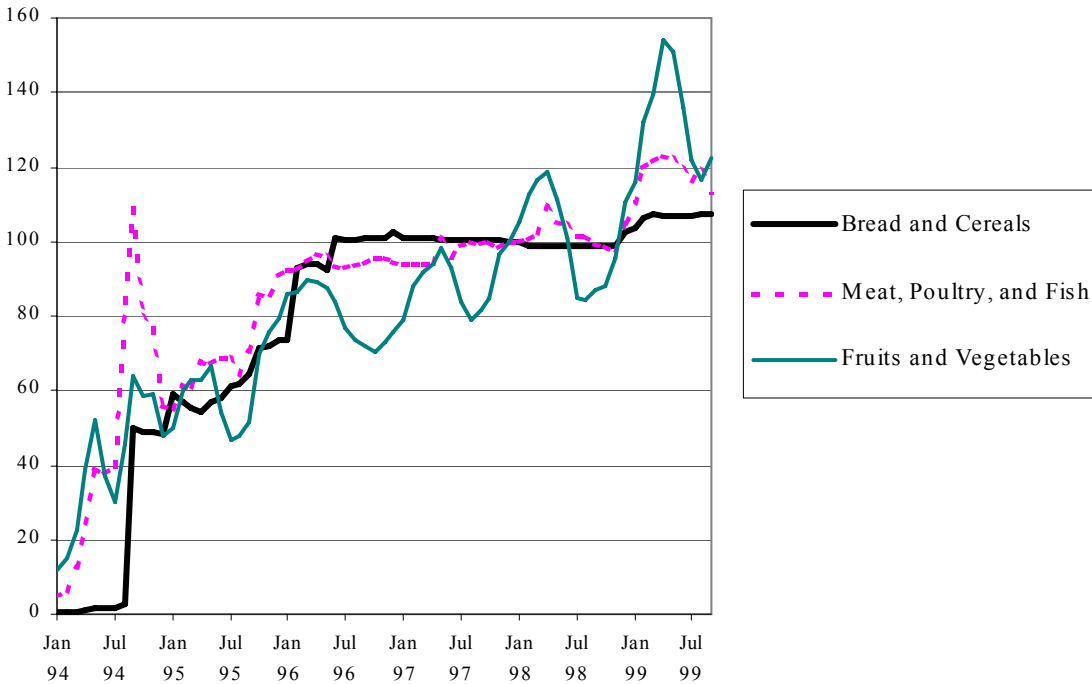


Source: data from State Department for Statistics of Georgia

The CPI of household goods went up by 10.2% over the previous month in February 1996. There were large changes in the CPI of medical care in March, April and May 1996. The prices increased by more than 5% over the previous month within these three months. There were only small changes in the CPIs of these four groups of goods and services from January 1997 till November 1998. The Russian financial crisis led to higher changes in December 1998. The indices of households goods and personal care and effects increased by more than 15% over the previous month in December 1998. The two other indices went up by around 10% over November 1998. There were higher decreases by around 5% over the previous month in the prices of household goods in May and June 1999. All other CPIs has been relatively unchanged since the beginning of 1999.

Next, the development of the CPI of food, beverages, and tobacco will be analysed in detail. Figure 10 shows the development of (1) bread and cereals; (2) meat, poultry, and fish, and at least (3) fruits and vegetables. These three subgroups are the most important of the CPI for food, beverage, and tobacco. They have an expenditure share of around 40 % in the weighting scheme for the Georgian index including all items based on December 1997=100.

Fig. 10: CPI of the three most important subgroups of the CPI of food, beverages and tobacco (Dec. 1997=100)



Source: data from State Department for Statistics of Georgia

The prices for the most important category of bread and cereals changed less from January till August 1994. But it soared by around 1900% over the previous month in September 1994. This extreme change was caused by the first step of the liberalisation of bread prices. In September 1994 the prices of bread jumped to around 285 times compared to the previous month. The index of bread and cereals went up from a level of 2.5 in August 1994 up to 50.1 in September 1994. The index of meat, poultry and fish highly increased in March, April, May and again in August 1994. It increased each month by around 100% over the previous month within that time. The CPI of meat, poultry, and fish reached a level of more than 100 in September 1994. That means, the prices for meat, poultry, and fish were in September 1994

higher than they will be three years later in December 1997 (the base period for the CPI). The prices of fruits and vegetables strongly increased in March and April 1994. They went up by more than 50% over the previous month within these two months. There were seasonal decreases in the prices of fruits and vegetables in June and July 1994. A next increase started in August 1994, the CPI jumped again by around 50% compared to July 1994. All three indices decreased from October till December 1994, but the decreases in prices of meat, poultry, and fish, and fruits and vegetables were much higher than the decreases in prices of bread and cereals. All consumer price indices reached a level of approximately 50 in December 1994. All three indices increased by 50 till 60% from December 1994 till December 1995. But there were large seasonal decreases in the CPI of fruits and vegetables by more than 10% over the previous month in June and July 1995. Again one can observe large seasonal increases in the prices of fruits and vegetables by more than 35% over the previous month in October 1995. There were large increases in the prices of bread and cereals by more than 25 % over the previous month in February 1996 and by around 10 % in June 1996. This was caused by the second and third step of liberalisation of prices for bread. In February the prices of bread jumped by 41% over the previous month and in June 1996 again by around 13% over May 1996. The CPI of bread and cereals has been relatively unchanged since July 1996. In December 1998, there was an increase by 4% over November 1998. The prices of meat, poultry, and fish increased approximately once a year from 1996 till today. The CPI of meat, poultry, and fish went up by 7.1% over the previous month in May 1996, by 6.5 % in April 1998, by 8.3 % in December 1998, and again by 9.1 % in February 1999. One can see remarkable seasonal changes in the prices of fruits and vegetables. There were large decreases in the summer term and larger increases in the winter term within the last years. It resulted in higher prices for fruits and vegetables from year to year.

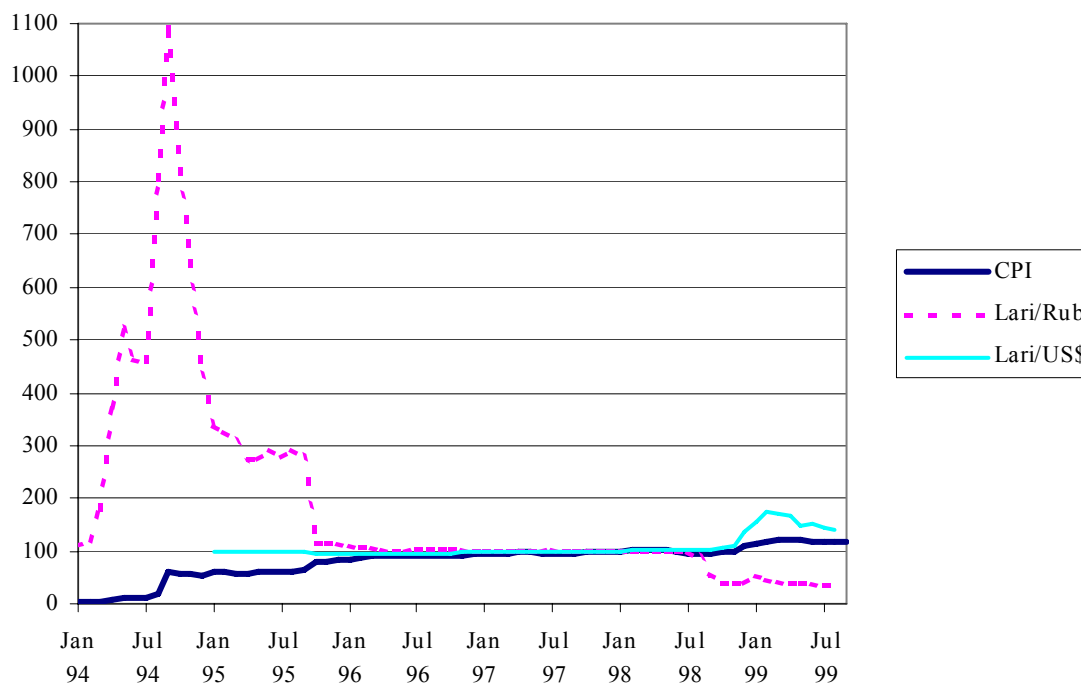
5. THE DEVELOPMENT OF GEORGIAN CPI IN COMPARISON WITH FOREIGN EXCHANGE RATES

One would expect a strong dependence of the Georgian CPI on the exchange rates of foreign currencies due to the high share of imported goods of approximately 80%. The main importers are the countries of the Commonwealth of Independent States. They combined approximately 38.8% of the Georgian import value from January till August 1999. The other 61.2% came from countries outside the CIS. The main single importer was Russia. It took around 21.8% of the Georgian import value from January till August 1999. The United States of America were the main importer from the countries outside the CIS. It took 11.9% of the Georgian import value.

It seems to be reasonable to compare the movement of Georgian CPI in comparison with the exchange rates of the US dollar in Georgian Lari due to the high share from importers outside of the CIS. Furthermore, one has to consider the exchange rate of the Russian Rubel in Georgian Lari and, for the time before the implementation of the Georgian Lari, the exchange rate of the Russian Rubel in Coupons of the National Bank of Georgia.

Figure 11 shows the development of the Georgian index of consumer prices in comparison with exchange rates based on December 1997=100. The Georgian Lari was implemented in October 1995. The exchange rates in Georgian Lari have been registering since that time. There are only exchange rates in Coupons of the National Bank of Georgia before October 1995. They have to be converted into estimated exchange rates in Georgian Lari. The US dollar exchange rates in Georgian Coupons divided by 1,000,000 deliver approximations for the US dollar exchange rate in Georgia Lari. The exchange rates of Russian Rubels in Coupons of the National Bank of Georgia divided by 4,000,000 deliver approximations for the exchange rates of Russian Rubels in Georgian Lari (due to an exchange rate of 4,000 for the Goerian Lari and the Rubel transformation of 1,000 to 1 in January 1998). All exchange rates shown in figure 11 are recalculation on the base of old Coupon rates until October 1995. The Georgian index of consumer prices is computed on the base of December 1997=100. Therefore, the exchange rates have to be recalculated on the same base period.

Fig. 11: **Georgian CPI and the exchange rates of Russian Rubels and US dollar in Georgian Lari (Dec. 1997=100)**

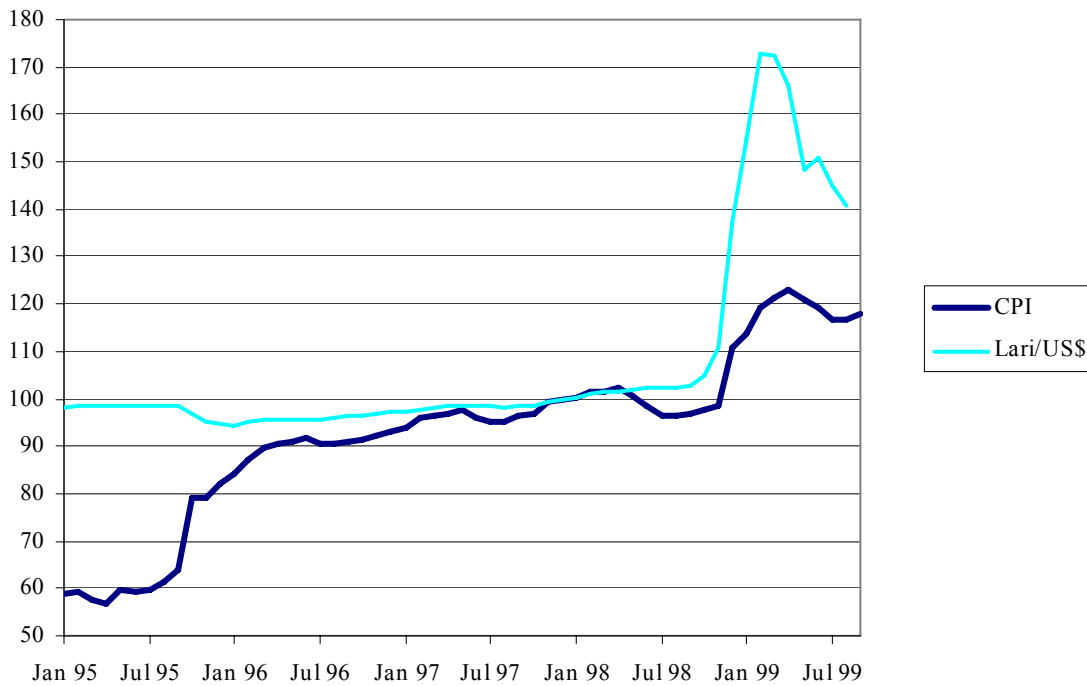


Source: own recalculations with data from the State Department for Statistics of Georgia

The consumer prices in Georgia strongly depended on the exchange rates of Russian Rubels in Coupons of the National Bank of Georgia until October 1995. This is not surprisingly due to the fact that before the installation of the Georgian Lari administratively priced goods and services had to be paid in Coupons. All other goods and services had to be paid in Russian Rubels. Official statistics had to convert the Russian Rubel prices into Coupons of the National Bank of Georgia for the registration and computation of consumer prices. Consequently, the high depression of Georgian Coupons led to high increases in consumer prices from May till September 1994.

The implementation of the Georgian Lari again resulted in higher consumer prices in October 1995. The Georgian CPI has been depending on the exchange rates of US dollar since that time. It depends on the exchange rates of Russian Rubels as well. But the latter itself strongly bases on the exchange rate of the US dollar. Therefore, one should compare directly the development of the Georgian CPI with the movement of the US dollar in Georgian Lari. Figure 12 shows a more detailed view for the period from 1995 till 1999.

Fig. 12: **Georgian CPI and the exchange rate of US dollar in Georgian Lari from 1995 till 1999 (Dec. 1997=100)**

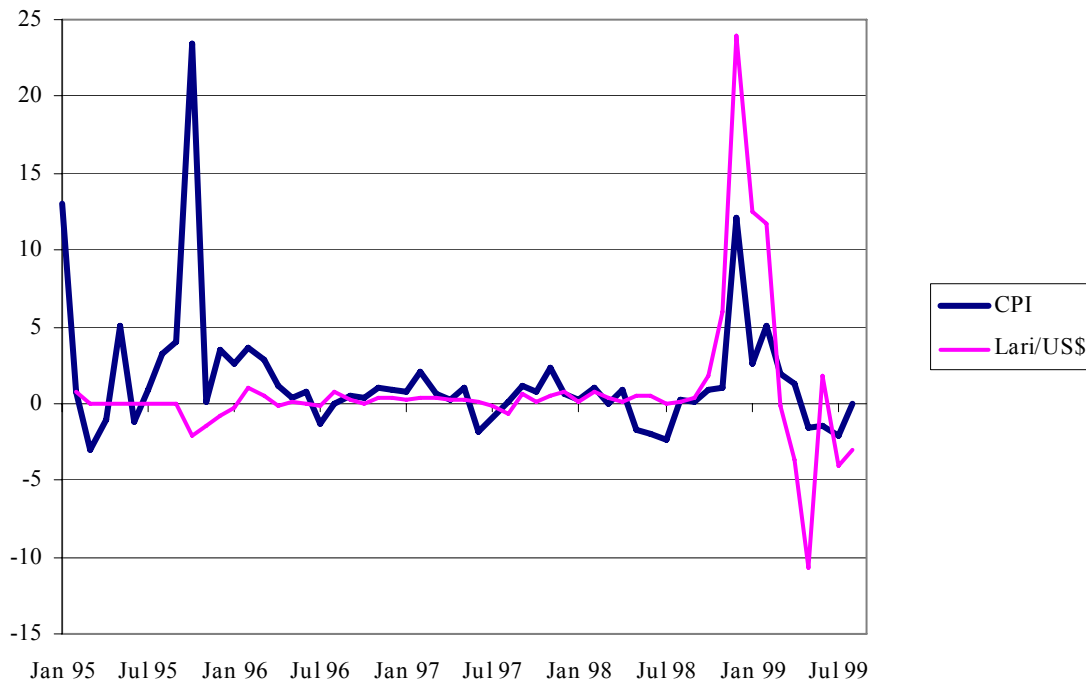


Source: data from the State Department for Statistics of Georgia

The changes in the exchange rate of the US dollar can easily explain the development of the Georgian CPI from December 1998 till today. The US dollar exchange rates in Georgian Lari went up in November and December 1998. Consequently, the consumer prices of Georgia also jumped up due to the high share of imported goods in December 1998. But the changes in CPI were lower than the development of the exchange rate. The US dollar exchange rate increased till March 1999. The CPI did the same till April 1999. The exchange rate of the US dollar has been decreasing since Mai 1999. The Georgian consumer prices followed from June till August 1999. There is only one difference: the amplitudes of the changes in the exchange rates are much higher than those of the consumer prices.

Figure 12 emphasises the monthly changes of Georgian CPI and the official exchange rate of the US dollar in Georgian Lari.

Fig. 12: **Georgian CPI and the exchange rate of the US dollar in Georgian Lari (changes over the previous month)**



Source: data from the State Department for Statistics of Georgia

The high changes in CPI at the beginning of 1995 were probably not related to changes in exchange rates of the US dollar. They were caused by the implementation of the Georgian Lari. But the development of the Georgian consumer prices is based on the exchange rate of the US dollar in Georgian Lari since December 1998.

6. CONCLUSION AND OUTLOOK

The changes in Georgian consumer prices has been developed relatively monotonous since the implementation of the Georgian Lari in September 1995. The average monthly inflation rate of Georgian consumer prices went down from around 3.9% in 1995 to approximately 0.7% (calculated with data from January till September 1999).

In principle, the methodological changes in compilation of consumer price statistics are finished. The State Department for Statistics of Georgia has defined a fixed basket of goods and services including 296 items in 1997. The basket has been unchanged since that time. The State Department for Statistics of Georgia has been using two different weighting schemes since 1997 due to different consumer behaviour and/or preferences and market situations in the capital Tbilisi and the other regions. Changes in prices reflect pure changes in prices. There are no methodological influences or after-effects of methodological improvements. The State Department for Statistics of Georgia is going to update the weighting structure due to the household expenditures in 2000.

In summary, the State Department for Statistics of Georgia supplies useful and adequate data of consumer prices related to international standards. It is open to new recommendations and suggestions from the outside. It also supplies methodological background information, such as detailed weighting schemes. It delivers sufficiently subdivided indices. One can get specified time series of consumer price indices on request. Unfortunately, the publications are very limited due to the poor budget situation in Georgia. The Department for Price Statistics publishes a monthly bulletin related to statistics of consumer prices. Unfortunately, it is available only in Georgian language. The publication “Consumer Price Indices” in English, which has been published quarterly till the beginning of this year, now will be published irregularly.

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