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Elena Gorelova ***Anatolii Rojco***

IMPACT OF PRICES ON THE WELL-BEING OF POPULATION THROUGH THE LENS OF STATISTICAL INDICATORS

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RESEARCH PAPER "IMPACT OF PRICES ON THE WELL-BEING OF POPULATION THROUGH THE LENS OF STATISTICAL INDICATORS"

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The research paper is aimed to analyze the impact of consumer prices evolution on the consumption of different groups of population, including socially vulnerable groups, by using official statistics such as data of the Household Budget Survey and consumer price statistics.

The purpose of this analysis is to determine the relationship among the price indexes for different goods and changes in the volume and structure of the consumption of people with different incomes and to formulate proposals on improvement of prices statistics of prices and public policies which affect the level of consumer prices and tariffs, as well as the welfare of the population.

The research has been commissioned by the United Nations Development Programme within the UNDP, UNIFEM, UNFPA, UNICEF Joint Project on Strengthening the National Statistical System. The views or opinions expressed in this research do not necessarily reflect the official policies of UNDP or other UN Agencies.

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1. Evolution of consumer prices, incomes and consumer expenditures of the population

Prices

In the recent years, in Moldova, a trend of "stabilization" of inflation level and growth rates for consumer products and services has been outlined.

In 2007-2008, comparatively moderate and almost equal growth rates of the consumer prices have been registered; in 2008 the prices increased by 12,7% and in 2007 – by 12,3%. This trend as a whole corresponded to the price situation of the previous four years. In the period of 2003-2006, on annual average, the consumer prices increased by 12,2%.

Despite the fact that the consumer price indexes in 2007 and 2008 were in fact the same, the price indexes trend for various categories of goods and services varied. So, if in 2007 (compared to 2006) the prices for non-food products increased to a considerable extent, then in 2008 (compared to 2007) such a decrease was valid for the food products prices. At the same time, like in the previous years, the highest growth rate of price increase occurred mostly for services provided to population.

Overall, for the period of 2007-2008, the food products prices increased by 28,3%. The negative side of this evolution is explained by the fact that this increase happened due to the considerable growth of the prices for basic food products, which comprise the significant share of consumer expenditures of the poorest layers of population. Thus, bread and bread products' prices increased by 36,3%, meat and meat products – by 47,5%, milk and dairy products – by 34,8%, eggs – by 74,7%, vegetable oil – by 79,1%, fresh fruits – by 76,5%.

Besides that, the considerable increase in prices for medicines (by 33,5%), fuel (by 34,7%), housing facilities (by 49,9%) and passenger transport (by 29,8%) represented a negative occurrence from the social perspective.

Outrunning rising of prices on vital products and services in 2007-2008 undoubtedly burdened the implementation of the policy on poverty and inequality reduction.

In 2009 the price situation started to change. In early 2009, a slowdown in the raising of consumer prices was traced out which afterwards implied the deflation act. In the 2-nd quarter the prices decreased by almost 1%, in the 3rd quarter – almost by 2%. In line with that, the prices of food products decreased faster than for non-food ones, whereas prices for services continued to grow, showing their "independence" from the economic crisis and purchasing power of the population.

The deflation situation in 2009 is less a result of the anti-inflation policy, and more a consequence/result of the deepening economic crisis and declining domestic consumption demand (in the 1st quarter the final consumption of the households decreased by 10,4%).

Table 1. Consumer price indexes in 2007-2009 (in % against the respective period of the previous year)

	2007	*2008*	*2008 including:*				2009		
	total	**total**	**Q. I**	**Q. II**	**Q. III**	**Q. IV**	**Q. I**	**Q. II**	**Q. III**
Consumer price indexes – total	112,3	112,7	114,7	116,2	111,9	108,5	103,2	99,1	98,3
including:									
food products	111,0	115,6	119,6	123,1	112,4	108,1	99,3	91,7	92,1
non-food products	113,1	108,3	110,5	110,3	108,5	104,2	100,5	98,8	98,8
services	114,3	116,5	115,2	117,3	117,1	116,5	114,1	110,7	105,9

Source: Data of the National Bureau of Statistics and authors' estimations

Incomes and consumer expenditures

Raise or decrease of the consumer prices is obviously impacting the welfare of the population, because the prices level influences the purchasing power. However, not only the evolution of consumer prices, but also the evolution of incomes, has impact on the purchasing power of the population. Without considering the impact of incomes on the population it is impossible to objectively assess the prices' impact on the living standards. The given two factors determine the level and the evolution of the welfare simultaneously.

If the price growth rates are higher than the income growth rates, the inflation actually neutralizes the incomes' increase and, as a rule, results in the decrease of the consumption volume. Thereby, the price increase also reduces the effects of the state income policies (policies on salaries, pensions, social benefits and other). In this case, the incomes policy, only to some extent, compensates for the negative impact of the inflation on the population welfare.

If the price growth rates are below the incomes' growth rates, the consumption volumes of the population and well-being as a whole increase. The incomes policy in such a situation gets more effective and able to achieve the targeted priorities, aims and tasks.

The relationship between the prices decrease, incomes evolution and consumption volumes is analogical. In case of deflation, the population's welfare evolution depends on the level of prices' decline, as well as on the incomes' change (on tempos of nominal incomes increase/decrease).

The above mentioned inter-relations between the evolution of prices, incomes and expenditures of the population are typical for the periods of economic stability. In unstable and crisis situation, the population's consumption is impacted not only by prices and incomes, but also by the behavior under the mentioned circumstances, related to savings at the expense of current consumption. As a result, the consumer expenditures can shrink even when prices decrease.

In the pre-crisis period (before 2008) the available incomes of the population were growing faster than prices of consumer products and services, which triggered nominal and real increase of consumption volumes. So, in 2007, when prices increased by 12,3%, the available incomes of the population (monthly average per person) increased in nominal terms by 21,3%. In 2008, when prices increased by 12,7%, the monthly disposable incomes of the population increased by 16,7%.

As a result of the outrunning growth of population's incomes in condition of on-going raise of consumer prices, in 2007-2008 the tendency of raising consumer expenditures and consumption of the population persisted. In 2007, the nominal consumer expenditures grew up by 17,4%, in 2008 – by 9,7%. Particularly, the consumption growth was caused mainly by the incomes increase.

Table 2. Increase (+) / decrease (-) of consumer prices, incomes and consumer expenditures of the population in 2007-2009 (in % against the respective period of the previous year)

	2007	***2008***	***2008 including:***				**2009**	
	total	**total**	**Q. I**	**Q. II**	**Q. III**	**Q. IV**	**Q. I**	**Q. II**
Prices for services and consumption goods	+12,3	+12,7	+14,7	+16,2	+11,9	+8,5	+3,2	-0,9
Available incomes (monthly average per person):								
- nominal	+21,3	+16,7	+23,7	+20,9	+14,4	+9,8	+2,9	-2,9
- real	+8,0	+3,5	+7,9	+4,0	+2,6	+1,2	-0,3	-2,0
Consumption expenditures (monthly averages per person):								
- nominal	+17,4	+9,7	+19,0	+11,0	+6,5	+4,8	-2,5	-0,4
- real	+4,5	-2,7	+3,8	-4,5	-4,8	-3,4	-5,5	+0,5
Source: Data of the National Bureau of Statistics and authors' estimations.								

It is worth mentioning that due to intensification of crisis phenomenon, in the economy in 2008, a decrease of growth rates not only for prices, but also for incomes of the population took place. As a result, since the 2nd quarter the downsizing of real volumes of consumption occurred. On the whole, in 2008 the consumer expenditures (as monthly averages per person), in real terms, decreased by 2,7%.

During the first half of 2009, an unstable situation continued, this eventually implying the decrease of population incomes and consumption expenditures in the context of declining growth rates of the consumer prices and subsequent deflation.

2. Impact consumer prices' evolution on consumption of various population groups

Choosing the indicator of the population well-being. Assessment of the prices' impact causes the need to choose an indicator of welfare. In the countries with developed economies, it is quite justified to use the disposable monetary incomes for this purpose. While in Moldova, as well as in most of other countries with transition economies, the income is not the best indicator of households' welfare. There are several reasons for that. Firstly, such social-economic phenomena as salary and pension arrears, do not allow assessing adequately the level of population's incomes. Secondly, for these countries a high level of distrust of the population towards various sociological surveys, claiming to unveil information on private incomes, is characteristic and this is why the respondents are prone to under-state their received incomes.

Due to the above mentioned, in Moldova it is reasonable to use the value of household consumer expenditures as the indicator of population welfare. This indicator allows to more adequately assess the real situation, so that the respondents of the Household Budget Survey will likely have no reasons to diminish the level of their expenditures. The fact that the excess of consumer expenditures over the disposable incomes is recorded within the HBS, serves as an important argument favoring the usage of consumer expenditures indicator. In 2008, for the total number of households, this exceeding amounted to 8,3%, varying between 4,6% for couples (families with both mother and father of the children) with children, up to 45,7% – for households comprising one parent with children (*Table 3).*

Table 3. Monthly monetary consumer expenditures and disposable incomes of households in 2008

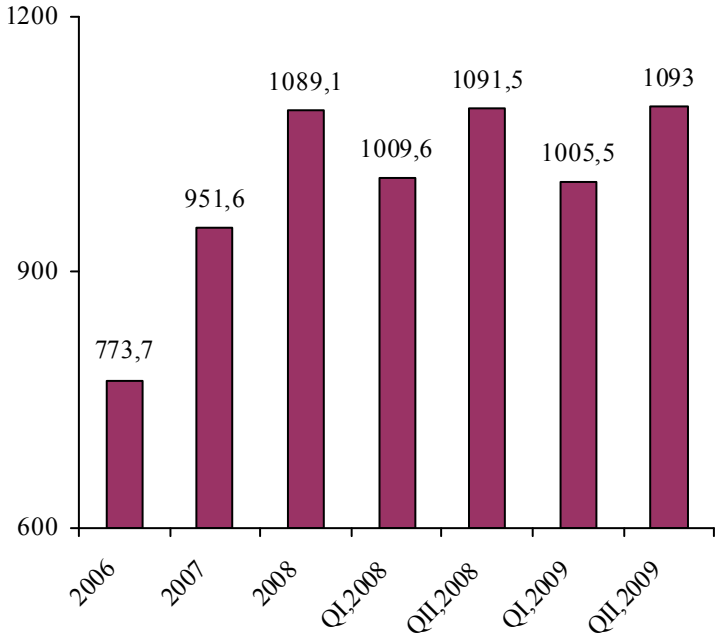
	All Households	Pensioners Households	Households with pensioners and other persons	Families /couples with children	Other households with children	One parent with children
Consumption expenditures (average per person), MDL	1089,1	1008,3	949,3	1088,0	859,7	1285,4
Disposable incomes (average per person), MDL	1005,8	940,4	905,3	1040,1	811,0	882,1
Excess of expenditures over incomes, MDL	83,3	67,9	44,0	47,9	48,1	403,3
Excess of expenditures over incomes, %	8,3	7,2	4,9	4,6	6,0	45,7
Source: Data of the National Bureau of Statistics and authors' estimations						

In the framework of this research, not the whole size of the consumer expenditures (which besides the monetary consumer expenditures also includes the household's farming production for its own consumption estimated/expressed in monetary terms), but only part of this dimension is used as the main/basic indicator of population welfare, namely the ***monetary consumer expenditures***.

Consumer expenditures. A positive evolution of consumer expenditures of the population has been observed in 2007-2008. Monthly average monetary consumer expenditures per capita have increased from 773,7 MDL to 1089,1 MDL, or by 40,8% *(Figure 1).* The highest growth rate was recorded in 2007 worth of 23,0%, while in 2008 this amounted only to 14,5%. The first half of 2009 was distinguished by an actual discontinuation of the steady evolution of the consumer expenditures' rise lasting since 2000. In the 1st quarter of 2009 the average monetary consumer expenditures per capita decreased by 4,1 MDL per month, by 0,4%, in comparison with the corresponding period of the

previous year. In the 2nd quarter of 2009, in comparison with the corresponding period of the previous year, they increased insignificantly – by 1,5 MDL per month, or by 0,1%.

Figure 1. Monetary consumer expenditures (monthly average per capita, MDL)



The increase of the monetary consumer expenditures (averages per capita) has been accompanied by the decrease of differentiation of their values by quintile. In 2006 the average monetary consumer expenditures of the households from the *V-th* quintile were 7,49 times higher than the respective expenditures of households from the *I-st* quintile, in 2007 this proportion amounted to 6,72 times, and in 2008 – 6,37 times *(Table 4).* In 2009 the named differentiation had the same decreasing evolution.

Table 4. Monthly average monetary consumer expenditures per capita by quintiles, MDL

	Quintiles					V-th q versus I-st q (times)
	I	II	III	IV	V	
2006	237,6	409,4	590,2	851,0	1779,9	7,49
2007	314,1	527,1	746,2	1060,3	2109,5	6,72
2008	377,8	623,3	856,9	1182,3	2405,6	6,37
Ist Quarter, 2009	325,1	533,6	808,0	1205,7	2149,4	6,61
IInd Quarter, 2009	373,3	644,6	888,4	1275,9	2282,8	6,11
Source: Data of the National Bureau of Statistics and authors' estimations						

The decrease of quintile differentiation of consumer expenditures indicates a shrinking of the population's welfare inequality. The fact that, the reduction of this inequality was caused by the higher growth rates of average monetary consumer expenditures per capita of the poorest groups of population, represents another positive aspect of this issue. During 2006-2008 the expenditures in the bottom quintile increased by 59,0%, while in the top quintile – barely by 35,2%.

The households' residence is an important factor which influences the welfare level of the population. The households from the rural are in the worst situation as their average monetary consumer expenditures per member in 2008 was worth of 842,5 MDL per month, which is 1,4 times less than in small towns, and 1,9 times less than in the big cities *(Table 5)*. The biggest inequality in the values of average monetary consumer expenditures per person is observed among the rural households, distinguished by the lowest welfare level. The proportion between the values of this indicator in the *V-th* and in the *I-st* quintiles in the rural area amounts to 6,48 times, whereas in the small towns – 5,02, and in big cities – 4,81 times.

Table 5. Monthly average monetary consumer expenditures per capita by quintiles and households' residence, 2008, MDL

	Total	**I-st quintile**	**V-th quintile**	**V-th /I-st quintile (times)**
Big towns	1595,3	517,1	2539,4	4,91
Small towns	1207,9	463,9	2327,4	5,02
Villages	842,5	351,7	2278,7	6,48
Source: Data of the National Bureau of Statistics and authors' estimations				

The fact that, the cross-territorial inequality between households in terms of consumer expenditures occurs mainly among the most needy groups of population, is a negative aspect. In villages, the level of consumer expenditures in the I-st quintile was 47,0% less than in the I-st quintile in the big cities, and 31,9% less than in small towns, whereas the discrepancy in consumer expenditures of the V-th quintile in villages versus big cities accounted to only 11,4%, and in villages versus small towns –just 2,1% less.

People's belonging to socially vulnerable groups (households with pensioners and with children) negatively impacts the well-being. In 2008, monetary consumer expenditures (average per person) of the households consisting of pensioners amounted to 1008,3 MDL a month (92,6% of the average level across all the households), and of households with pensioners and other persons – 949,3 MDL (87,2% of the average level) – see *Table 6*. A relatively better standard of living of the households consisting only of pensioners is complemented by a lower inequality level in terms of quintile distribution of the monetary consumer expenditures. The quintile coefficient of differentiation (5,47) in the households of pensioners is the lowest among all types of socially vulnerable population groups.

Table 6. Average consumer expenditures per capita in households with pensioners and with children in 2008, MDL a month

	Total	**I-st quintile**	**V-th quintile**	**Vth quintile versus Ist q (times)**
Households consisting only of pensioners	1008,3	410,1	2246,5	5,47
Households with pensioners and other persons	949,3	374,3	2443,6	6,53
Families/couples with children	1088,0	375,2	2352,6	6,27
A parent with children	1285,9	385,7	2785,5	7,22
Other Households with children	859,7	363,7	2167,1	5,96
Source: Data of the National Bureau of Statistics and authors' estimations				

Among various types of households with children, the most difficult situation is faced by the group "*other households with children*". Their average monetary consumer expenditures per person (859,7 MDL a month) is the lowest among all socially vulnerable groups of population. The reason is multi-generational composition of these households, which triggers a high dependents' burden on the budget of these households.

The welfare of the family couples with children is equal to the average level of all households, while the welfare of the households like "*one parent with children*" exceed the average level by 18,1%. It is worth mentioning that the number of children in the households has a big impact on the welfare level of the households with children, despite the type of household within this category.

Consumer prices and their impact on consumption. The pricing factor has a considerable impact on the living standards of the people. The prices for primary goods and, first of all, food products have a particular importance.

The purchasing prices of ***food products*** have a significant differentiation depending on area the households' residence. The prices of the most types of products are higher in big cities than in rural area. This statement is explained by the influence of several factors. Firstly, a higher level of average monetary disposable incomes per person in the big cities gives the possibility to the population to purchase food products of higher quality (and, as a rule, more expensive). This refers to the superior nutritional value products like meat, dairy and fish. Secondly, the big cities avail of broad networks of retail commercial units – ranging from fairs, small wholesalers, mini-markets, to big super-markets, where the prices of food products of roughly same quality differ quite considerably. This provides the inhabitants of the big cities the possibility to choose the trade unit, where they can meet their demand. For villagers these possibilities are rather limited. Besides that, small trade enterprises in the rural area avail of quite narrow product assortment of food products. As a result, the purchasing prices of certain food products (particularly pasta, rice, chicken, frozen and baked fish, sub-products etc.) for the less propertied/wealthy groups of population from the *I-st* quintile in villages is higher than in the big cities *(Table 7).*

The establishment of prices of wheat flour bread was favorable for the population of big cities. Unlike rural area, the biggest bread producers – AO "Franzeluța" in the municipality of Chisinau, and the bakery in the municipality of Balți, benefited of the state subsidies in purchasing wheat flour. This gave them the possibility to bake so-called "social" varieties of bread, sold in the retail network for lower prices. As a result, the village buyer from the *I-st* quintile could purchase 1 kg of wheat bread at a higher/more expensive price (by 2,39 MDL or by 43,4%) than the buyer in the big cities from the same quintile; as for the *V-th* quintile buyer this price would be 0,73 MDL (or 10,4%) more expensive. The purchasing prices of products like milk and dairy products, vegetable oil, vegetables were lower in the rural area that in the urban area.

Thus, the average prices for purchasing most food products in the big cities were higher than in the rural areas. However, in the villages the prices for many food products, purchased by the neediest population, were higher, than in the big cities.

Inequality in purchasing prices of food products occurs also across population quintiles. ***In this regard, the higher is the level of households' welfare, the higher is, as a rule, the purchasing price of most types of food products.*** The biggest cross-quintile differentiation in terms of purchasing prices is characteristic for big cities. The highest proportion between the purchasing prices for the *V-th* quintile versus the *I-st* quintile is observed for meat sub-products (2,1 times), salted and baked fish (64,3%), smoked meat products (32,7%), chicken (31,9%). For small towns and villages this differentiation is considerably lower. For instance, this differentiation in the rural area amounts to 40,3% for salted and baked fish, 38,9% – for meat sub-products, 29,6% – for tomatoes *(Table 7).*

Table 7. Purchasing prices of some food products by quintile and households' residence area, 2008, MDL per 1kg

	Big cities			Small towns			Villages		
	I-st quintile	V-th quintile	V/I,%	I-st quintile	V-th quintile	V/ I,%	I-st quin-tile	V-th quin-tile	Vq/ Iq ,%
Rice	16,65	19,67	118,1	18,93	19,31	102,0	18,49	19,75	106,8
Wheat bread	5,51	7,02	127,4	6,26	6,86	19,6	7,90	7,75	98,1
Pasta	10,97	13,64	124,3	11,42	12,77	111,8	11,20	11,89	106,2
Beef	52,69	67,36	127,8	71,67	73,49	12,5	52,80	64,26	121,7
Pork	73,13	73,57	100,6	63,22	75,10	118,8	60,27	66,20	109,8
Chicken by domestic producers	31,51	41,58	131,9	35,59	38,99	109,5	35,12	38,05	108,3
Sub-products	16,60	34,58	208,3	34,63	32,35	93,4	23,90	33,21	138,90
Smoked food	76,80	101,88	132,7	80,00	100,25	125,3	85,42	99,10	116,0
Salted, dried, smoked fish, including herring	27,55	45,28	164,3	26,32	45,21	171,8	29,17	40,92	140,3
Cheese and cottage cheese	59,72	72,59	121,5	40,30	56,46	140,1	40,13	50,64	126,2
Tomatoes	8,83	11,34	128,4	7,13	10,21	143,2	8,15	10,56	129,6
Source: Data of the National Bureau of Statistics and authors' estimations									

Price differentiation by quintile occurs also through the perspective of socially vulnerable groups of population. Among these groups, the highest differentiation in purchasing prices of food products occurs with the *family couples with children*. Thus, for this type of households in the *5-th* quintile the prices are higher than in the *1-st* quintile – when buying salted and smoked fish by 2,2 times, sub-products – by 66,1%, beef – by 64,7%, cheese and sheep cheese/ brinza – by 57,7% *(Table 8).* For *other households with children,* for the population in the *V-th* quintile group compared with the *I-st* quintile, the highest excess in purchasing prices occurs for salted and smoked fish (49,2%); the lowest - for smoked meat products (10,0%). More over, the purchasing price for wheat flour bread by the population of this type of households in the *V-th* quintile is by 1,5% lower than in the *I-st* quintile.

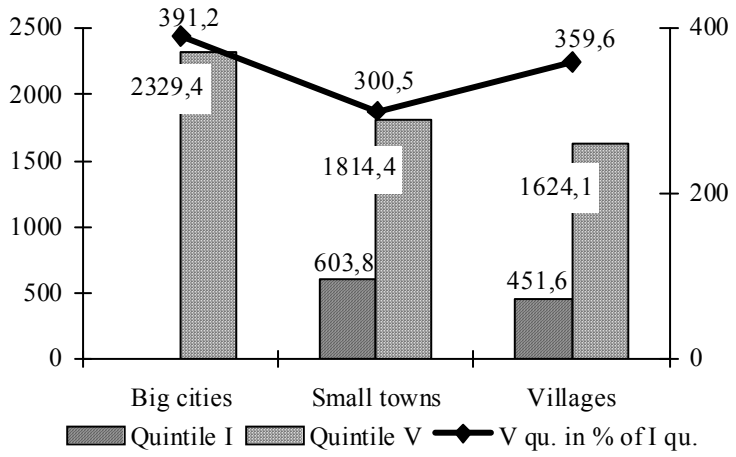
The increasing tendency of the purchasing prices' for food products along with households' welfare growth is characteristic for households comprised only of pensioners. In this regard the increase in the purchasing prices of many food products (rice, macaroni, beef, sausages etc.) in the *V-th* quintile compared with the *I-st* one is lower than in other socially vulnerable groups.

Table 8. Purchasing prices of some food products by socially vulnerable groups of population in 2008, MDL/1 kg

	Families with children			Other households with children			Households only with pensioners		
	I-st quintile	V-th quintile	V / I, %	I-st quintile	V-th quintile	V / I, %	I-st quintile	V-th quintile	V / I, %
Rice	18,24	19,40	106,4	18,33	20,30	110,7	19,61	20,19	103,0
Pasta	11,35	13,09	115,3	11,27	12,77	113,3	11,07	12,31	111,2
Beef	42,00	69,18	164,7	53,75	70,96	132,0	63,75	65,44	102,6
Pork	69,34	71,95	103,8	57,48	75,40	131,2	63,33	70,77	111,7
Chicken by domestic producers	34,08	42,40	124,4	34,29	39,00	113,7	34,77	39,52	113,7
Sub-products	23,73	39,42	166,1	30,40	34,40	113,1	36,92	28,40	76,9
Smoked food	79,57	96,48	121,2	96,67	106,35	110,0	-	102,32	-
Salted, dried, smoked fish, including herring	31,96	70,54	220,7	29,47	43,98	149,2	27,27	34,47	126,4
Cheese and cottage cheese/brinza	45,45	71,66	157,7	46,04	61,49	133,6	29,47	50,69	172,0
Tomatoes	7,35	9,00	122,4	7,72	8,84	114,5	7,46	11,47	153,7
Source: Data of the National Bureau of Statistics and authors' estimations									

The levels of consumer prices and disposable money incomes have a determinant impact on the number of purchased food products by population. In 2008 the disposable incomes of the population (monthly average per person) from the *V-th* quintile exceeded the incomes of the population from the *I-st* quintile by 3,9 times (big cities), by 3,0 times (small towns) and by 3,6 times (villages) – Figure 2. In line with growing incomes of the population increased also the number of purchased food products. However, this increase occurred slower than the increase of the monetary incomes. The trend of this products prices manifested a certain hindering impact on the amount of purchased food products.

Figure 2. Disposable monetary incomes (2008, MDL/month)

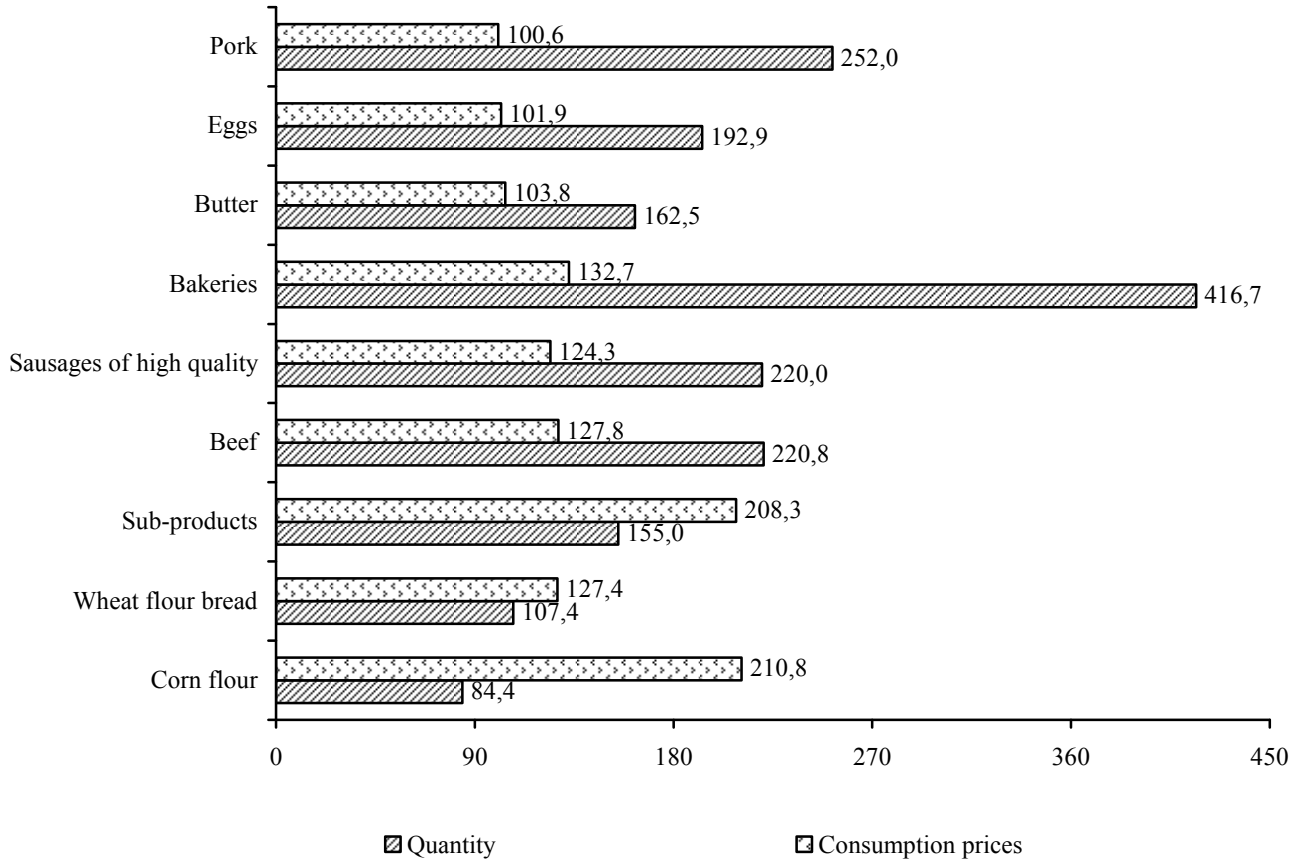


Correlation between the growth rates of purchasing prices and raising number of purchased food products is uneven for a variety of them. Thus, in 2008 in the big cities exceeding purchasing prices for pork in the *V-th* quintile, compared with the *I-st* quintile group, accounted for 0,6%, whereas the amount of purchased pork increased more than 2,5 times (Figure 3).

Analogical correlation exists also with regard to prices and number of purchased eggs, smoked foods, butter, beef and most other food products. For the least number of food product types (sub-products, wheat flour bread, corn flour etc.), vice versa, the prices' growht rates exceeded the raise of the amount of purchased products. This situation is typical also to small towns, and for villages.

Thus, as the per capita monetary income is growing up, the amount of purchased food products increases as well, for most of their categories. The same time, the growth rates of purchased products exceeded the increased prices of their purchases .

Figure 3. Growth rates of purchasing prices and amount of purchased food products in the big cities in 2008 (*V-th I-st* quintile in % versus I quintile)



The trend when the raising monetary incomes increased in line with the amount of purchased food products, is typical also to socially vulnerable groups. In comparison with the *I-st* quintile, the family couples with children from the *5-th* quintile bought more beef by 48,0%, more pork – by 41,9%, rice – by 38,7%, top-quality sausages – by 26,7% (Table 9). In line with that, the volume of purchased smoked meat products was similar to the *I-st* quintile, and of sub-products – even less. The increased amount of purchased food products – rice, pork, top-quality sausages (in the *V-th* quintile compared with the *I-st* quintile) exceeded the growth rates of prices for their purchases. With regard to such food products as beef, chicken, sub-products, the increased amount of their purchases was below the increasing prices rates.

Besides the prices there is also some other factors that influience the increasing amount of some products purchasing (in *V-th* quintile group compared to the *I-st* one), In "other households with

children" this kind of impact factor was the composition of the households, comprising only out of pensioners – that is, age of their members.

Table 9. Quantity of some food products (average per capita), purchased by socially-vulnerable of population from various quintiles, in 2008, kg/month

	Families with children			*Other households with children*			*Households only with pensioners*		
	***I-st* quintile**	***V-th* quintile**	***V/I*, %**	***I-st* quintile**	***V-th* quintile**	***V/I*, %**	***I-st* quintile**	***V-th* quintile**	***V/I*, %**
Rice	0,31	0,43	138,7	0,31	0,38	122,6	0,79	0,98	124,0
Pasta	0,37	0,42	113,5	0,36	0,44	122,2	0,91	1,04	114,3
Beef	0,25	0,37	148,0	0,27	0,37	137,0	0,40	0,78	195,0
Pork	0,31	0,44	141,9	0,41	0,39	95,1	1,18	0,83	70,3
Chicken by domestic producers	0,41	0,46	112,2	0,31	0,48	154,8	0,98	1,02	104,1
Sub-products	0,38	0,28	73,7	0,28	0,30	107,1	0,87	0,91	104,6
Smoked food	0,17	0,17	100,0	0,09	0,22	244,0	0,30	0,45	150,0
Salted, dried, smoked fish, including herring	0,17	0,18	105,9	0,13	0,18	138,5	0,25	0,47	188,0
Cheese and cottage cheese/brinza	0,24	0,16	66,7	0,21	0,18	85,7	0,86	0,59	68,6
Tomatoes	0,71	0,83	116,9	0,64	0,85	132,8	1,51	2,29	151,6

Source: Data of the National Bureau of Statistics and authors' estimations

In 2008, the prices for non-food products increased to a less extent compared to prices for food products. For the non food products the prices has increased to the highest extent for such items as drugs (by 10.6%), construction materials (by 8.1%), cosmetics and perfume' products (by 13.4%), to a lower extent – clothes (by 6.2%) and shoes (4.6%). There were noticed a slow decrease for the prices for house appliances , especially - for refrigerators, washing machines and TV sets.

The most important (from the social perspective) goods from the non-food category are clothes, shoes and drugs, and their share in the total monetary expenditures of the population represented 18.5%.

According to the data of the Household Budget Survey, in 2008, population has spent 16.7% more on purchasing of clothes and shoes and 11.9% more on purchasing drugs, compared to 2007. A real growth of the consumption of these goods has taken place given the fact that the expenditures for these items increased to a greater extent compared to their prices.

Yet, , the trends of the expenditures for purchasing clothes, shoes and drugs varied from one group of population to another.

It is worthwhile mentioning that households with different monetary incomes and belonging to different quintile groups, increased their real expenditures towards clothes and shoes, which is due to the led to insignificant increase of prices for this consumer goods. Instead of this, considerable differences though persisted as it regards the volumes of the expenditures for procurement of clothes and shoes. The average per capita expenses increase for the above mentioned goods for the households from the I quintile group was 6.7 MDL per month, whereas for those from the V quintile – 45.8 MDL. As shown

in Table 10, the increase of the expenditures for clothes and shoes for the families with better living standards has been 6.8 times higher than for those with lower living standards.

There is still in place the high level of discrepancy in relation to the access of different groups of population to drugs. The increase of average per capita expenditures for drugs for the households from the Ist quintile has been of 1.1 MDL/month only, whereas for those form the Vth quintile of 10.2 MDL. The existing difference between the growths of the expenditures for drugs for the quintile groups I and V was of 8.9 times. Despite the fact that growth of the expenditures for drugs has been registered for all groups of households, it has been observed a reduction of the real expenditures for drugs for I and III quintile groups, which can be explained though a comparatively high growth of the price for drugs.

Table 10. Increase of monetary expenditures (monthly averages per person) for purchasing of clothes, shoes and drugs, by quintile groups, in 2008 as compared with 2007, MDL

	Quintile groups					V/ I
	I	II	III	IV	V	(times)
Clothes and shoes	6,7	15,6	26,2	17,1	45,8	6,8
Drugs	1,1	3,3	3,0	7,8	10,2	8,9

Tariffs on commodities increased at a highest rate compared to the increase in prices for food and non-food products. Therefore, the problem of unequal access of different groups of population to paid services remains one of the most stringent and actual.

In 2008, prices for medical services increased almost as much as prices for drugs, i.e. by 10.7%. The lower income groups of population insignificantly increased their expenditures for paying medical services. The increase in these household expenditures in quintile I constituted only 0.02 MDL per person on a monthly basis. The households from the quintile V increased the same expenditures by 2.0 MDL (which is 100 times higher). The households from the quintiles I, III and IV reduced their expenditures on dental care, and the households from quintile V increased their dental care expenditures by almost 50% compared to the previous year.

At the same time, the population' groups lower income (quintile groups I and II) increased their expenditures for specialized hospital care to a higher degree compared to higher income groups (see Table 11).

Table 11. Increase of monetary expenditures (monthly averages per person) for payment of the medical services, by quintile groups, in 2008 as compared to 2007, MDL

	Quintile groups				
	I	II	III	IV	V
Paid medical services	0,02	0,6	0,3	0,8	2,0
Dental care	- 0,1	0,4	- 1,1	- 2,0	9,5
Hospitalized treatment	0,6	0,8	- 0,3	1,4	0,1
Source: Data of the National Bureau of Statistics and authors' estimations					

The increase of the prices for educational services (by 15.2%) negatively influenced the population's access to education. This is confirmed by the fact that households from the I, II and IVth quintiles reduced their expenditures related to education (I – by 0.1 MDL per month for one member of the household, III – with 1.9 MDL, IV – with 1.6 MDL). At the same time, households from quintile V increased their expenditures for education by 5.4 MDL, or by 40%.

The significant increase of the prices set for passenger transportation services (by 17.6%) conducted to a reduction of transportation expenses for less protected groups of population. The members of the households from the I and II quintile reduced their transportation expenses (exception being the expenditures for interurban bus travel). The opposite has happened with the same type of expenditures

of the households in upper quintiles. Households from the Vth quintile group increased their expenditures for all types of transportation services, except the one by air (see Table 12).

Table 12. Increase of monetary expenditures (monthly averages per person) for to transportation services, by quintile groups, in 2008 compared to 2007, MDL

	Quintile groups				
	I	**II**	**III**	**IV**	**V**
Urban transportation services	-0,98	-0,35	-0,10	1,37	3,18
Cab services	-0,01	-0,03	-0,53	-0,22	1,70
Railroad transportation services	-0,31	-0,04	0,52	-0,59	2,73
Intercity transportation services	0,90	1,30	0,40	-0,96	4,42
Air transportation services	0,00	0,00	0,00	0,00	-1,45
Source: Data of the National Bureau of Statistics and authors' estimations					

The prices set for the housing and other related services have a significant impact on the wellbeing of the population. These prices grew faster than any other prices. In 2008, price for electricity increased by 25.5%, water and sanitation – by 53.4%, natural gas (in network) by 15.8%, centralized heating – by 19.9%. Only the price for drinkable water remained unchanged.

In 2008, the population's expenses for the core housing services/utilities (including electricity, drinkable water, sanitation, natural gas, hot water and centralized heating) increased by 29.1%.

The higher income groups of population enjoy better housing conditions, especially as it regards supply in natural gas, hot water, centralized heating, and therefore spend more on these types of services (as estimated per one member of the household), as compared to the vulnerable categories of population. This is why expenditures of the higher income group of population grew up to a bigger extend then the expenses of the lower income group of population for this type of services. Thus for instance, monthly household's expenditures from quintile I for electricity increased by 8.4 MDL (per person), whereas for the household from the Vth quintile – by 21.1 MDL, for the natural gas – by 2.7 and 11.1 MDL respectively.

The distribution of the 'housing and utilities' burden' on diverse groups of population remains to be disproportional and unjustified from a social and economic equality' point of view. The weight of the expenditures for the main types of utilities in the total monetary expenditures of the vulnerable population has been and remains to be higher as compared to wealthiest population. The general situation can be defined as follows – the poorer the household the higher is the weight of the expenditures dedicated to housing and utilities, and vice-versa.

In 2007, the weight of the households' expenditures from the quintile group I for electricity, natural gas, hot water, centralized heating and sanitation represented 11.5% of the total monetary expenditures, whereas for quintile group V – only 5.8% (see Table 13).

In 2008, it has been observed an increase of the weight of expenditures for housing and utilities for all categories of households. At the same time, under these circumstances, the weight of the expenditures for housing services and utilities of the vulnerable families remain higher (11.9% out of the total monetary expenditures) relative to the wealthy categories of households (6.9%).

Table 13. Weight of the expenditures for the main types of housing services and utilities in the total monetary expenditures of the population, by quintile groups, in 2008 and 2007, %

	Quintile groups				
	I	**II**	**III**	**IV**	**V**
2007	11,5	10,9	9,7	8,6	5,8
2008	11,9	11,1	10,9	9,8	6,9
Source: Data of the National Bureau of Statistics and authors' estimations					

3. Trend of individual consumer price indexes

The necessity of calculation of the individual consumer price indexes. Changing inflation implies a direct impact on the well-being level of the population, which influences the purchasing power of incomes. Despite of that differences in terms of incomes and consumer preferences of various layers of the population cause not only the various values of prices' increase for different households, but also another impact of the factual inflation for the families with various levels of incomes.

The Consumer Prices Index (CPI) is the main indicator, which characterizes the inflationary processes in the country. The CPI shows variations in time of the overall level prices for goods and services, purchased by the population for non-production consumption, and is used for accomplishing state economic and social policy, analysis and forecast of inflationary processes in the economy. While reflecting the general trend of prices changes, the CPI in line with that, can considerably distort the real levels of prices' increase. This occurs due to several reasons. Firstly, there is a considerable limitation of the consumer goods and services' basket, based on which retail prices are registered. Secondly, observation on the consumer prices is carried out in a small number of urban residential settlements (there are 8 in Moldova: Chisinau, Baltsi, Cahul, Comrat, Edinets, Orhei, Soroca, Ungheni); due to objective reasons the rural area has not been included in observations with regard to retail prices. Thirdly, for calculation of the CPI there is not taken into account the differentiation of incomes of the population, *i.e.* the differences are ignored in the structure of consumer expenditures in various quintiles of the population. As a result, this implies distortions in the real level of inflation. A way out of the created situation could be calculation of individual indexes of consumer inflation.

Methodological approach to the development of the individual consumer price indexes. An individual consumer price index for the *I-st* quintile is the consumer prices index, developed by taking into account the structure of monetary consumption expenditures of the respective group population. Calculation of the individual consumer price indexes is done in two methods.

The first method is using the official method of the calculation of consumer prices index with the only difference that the weight factors used for calculation are built up individually for each of the quintiles. The overall chart of calculations looks as follows. The price indexes published by the NBS for main consumer products and services are combined in an individual consumer price index for the *i-st* quintile by means of specially assessed weight factors. The calculation of the individual weights is done based on data provided by the household budget survey, by using the weighted consumer expenditures across different quintiles as new weight coefficients.

The second method , for building the individual price indexes is using an extended basket of goods and services. They comprise actually all the goods and services, which, according to data of the household budget survey, were purchased by the population by monetary. In compliance with the structure of the consumer expenditures, for these goods and services, for various quintiles are calculated new weight coefficients. Besides, while calculating the individual indexes are used real purchasing prices of food products by population, which objectively are differentiated by quintiles. The information of these prices is determined based on data of the household budget survey.

Thus, while working up the first method of individual consumer price indexes are taken into account only differences in structure of the monetary consumer expenditures by quintiles (based on similar for all the quintiles official CPI in terms of a limited basket of goods and services, based on whom retail prices are registered). The second calculation variant reflects the cross-quintile differences in terms of both structure of monetary consumer expenditures for purchasing the whole basket t of goods and services, as well as in terms of purchasing prices . This makes possible to assess more precisely inflation and its impact on the living standards of various population groups in the country.

The calculation of the individual consumer price indexes according to first method causes the need to define the structure of monetary consumer expenditures by quintiles. For the expenditures' structure food products purchases, a particular characteristic is the gradual cross-quintile decrease of the weight expenditures for the cheapest products and increased share of expenditures for the most expensive (and more valuable in terms of nutritive ingredients) food products.

Thus, in 2006 (analogical trends are typical also to the subsequent years) the weighted expenditures for potato in the *I-st* quintile accounted for 5,90%, whereas in the *5-th* one – for 2,55% , or by 2,7 times more, for bread and bakeries – respectively, 29,64% and 16,05%, or by 1,8 times more, for vegetables and melons – for 8,25% and 6,74%, or by 1,2 times more (Table 14).

Table 14. Structure of monetary expenditures for purchasing foodstuffs by quintiles in 2006, %

	quintiles				
	I	***II***	***III***	***IV***	**V**
Food products	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**
including:					
Bread and bakeries	29,64	24,92	21,81	19,99	16,05
Meat and meat products	14,30	17,23	20,30	23,11	26,02
Fish and fish products	7,31	7,92	8,34	8,16	7,85
Milk and dairy products	7,84	10,18	10,73	11,11	10,96
Eggs	2,89	2,23	1,98	2,15	2,02
Fats	7,29	6,95	6,41	5,96	4,49
Fruits and berries	1,14	1,98	2,35	3,01	4,29
Vegetables and melons	8,25	8,27	8,15	8,36	6,74
Potatoes	5,90	4,41	3,46	3,25	2,55
Sugar and pastry	10,46	9,44	10,22	9,42	8,70
Other food products	0,25	0,20	0,17	0,13	0,08
Coffee, tea	1,11	1,53	1,48	1,70	1,83
Non-alcoholic beverages	1,61	1,95	1,98	2,57	3,23
Alcoholic beverages	2,60	2,79	2,63	3,10	5,20
Source: **Data of the National Bureau of Statistics and authors' estimations**					

At the same time the weight of the monetary expenditures for purchasing fruits and berries in the *5-th* quintile accounted for 4,29%, which is by 3,8 times more, than in the *I-st* quintile, meat and meat products – 26,02%, which is by 1,8 times more, milk and dairy products – for 10,96%, which is by 1,4 times more, fish and fish products – for 7,85%, which is by 1,1 times more.

Table 15. Per-quintile structural changes in terms of expenditures for purchasing some food products

	I,%	*V,%*	V / I, times
Bread and bakeries:	***29,64***	***16,05***	***-1,8***
- wheat flour	1,46	0,38	-3,8
- wheat flour bread	13,90	6,35	-2,2
- bakeries	2,79	2,10	-1,3
Meat and meat products:	***14,30***	***26,02***	***+1,8***
- smoked food	0,08	1,29	+16,1
- beef	0,53	1,86	+3,5
- top-quality sausages	1,50	4,98	+3,3
- sub-products	0,84	1,44	-1,9
Milk and dairy products:	***7,84***	***10,96***	***+1,4***
- cheese and cottage cheese	0,88	3,03	+3,4
- butter	2,63	2,10	-1,2
Fats:	***7,29***	***4,49***	***-1,6***
- vegetable fats	2,11	2,46	+1,2
- vegetable oil	3,62	1,68	-2,1
Source: **Data of the National Bureau of Statistics and authors' estimations**			

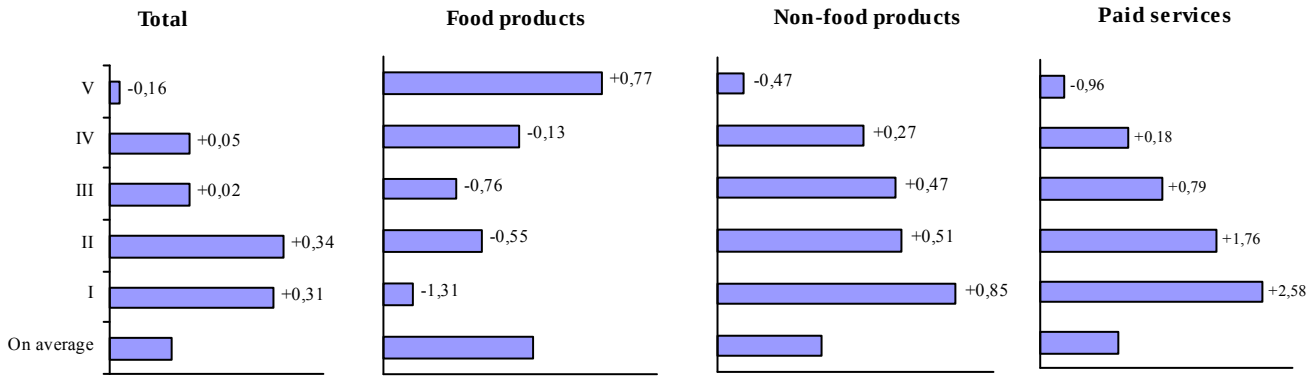
Simultaneously with the raising well-being of the people take place substantial structural moves in monetary expenditures for purchasing some food products. The weight of the expenditures of households from *5-th* quintile for bread and bakeries is by 1,8 times less, than in the *I-st* quintile. However, the share of expenditures for wheat flour and wheat flour bread – is respectively less, by 3,8 times and 2,2 times (Table 15). Instead, the share of expenditures for purchasing bakeries is the least, by 1,3 times. The weighted share of expenditures for purchasing meat and meat products by *V-th* quintiles is by 1,8 times more than in the *I-st* quintile. However, the share of expenditures for smoked foods is higher more by 16,1 times, beef – by 3,5 times, top-quality sausages – by 3,3 times. In this regard, the share of expenditures for purchasing sub-products is less by 1,9 times. The per-quintile structural moves in expenditures for various types of dairy products were targeted multi-purposefully. A similar situation appears also in the structure of expenditures for goods category "Fats".

Different structure of monetary expenditures for purchasing food products, non-food products and paid services based on similar average formal CPI for them, causes uneven/ different individual CPI for various quintiles.

The 1-st method of calculation of individual consumer price indexes.

The individual CPI for 2007 (2006 = 100%). The individual CPI on food products for household members of the quintiles I-IV were less than average for all the households. In this regard the most lagging behind of average CPI was registered in the *I-st* quintile (-1,31 p.p.) – Figure 4. For the household members of the *V-th* quintile the individual CPI, conversely, outpaced the average indicator (by 0,77 p.p.).

Figure 4. Deviation (+/-) from the average level of individual consumer price indexes by quintiles, in 2007 (2006 = 100%)



For non-food goods the individual CPI for household members of the quintiles I-IV were higher than the average for all households. The biggest exceed compared with the average CPI was registered in the *I-st* quintile (+0,85 p.p.). For household members of the *V-th* quintile the CPI, inversely, was lower than the average indicator (by 0,47 p.p.).

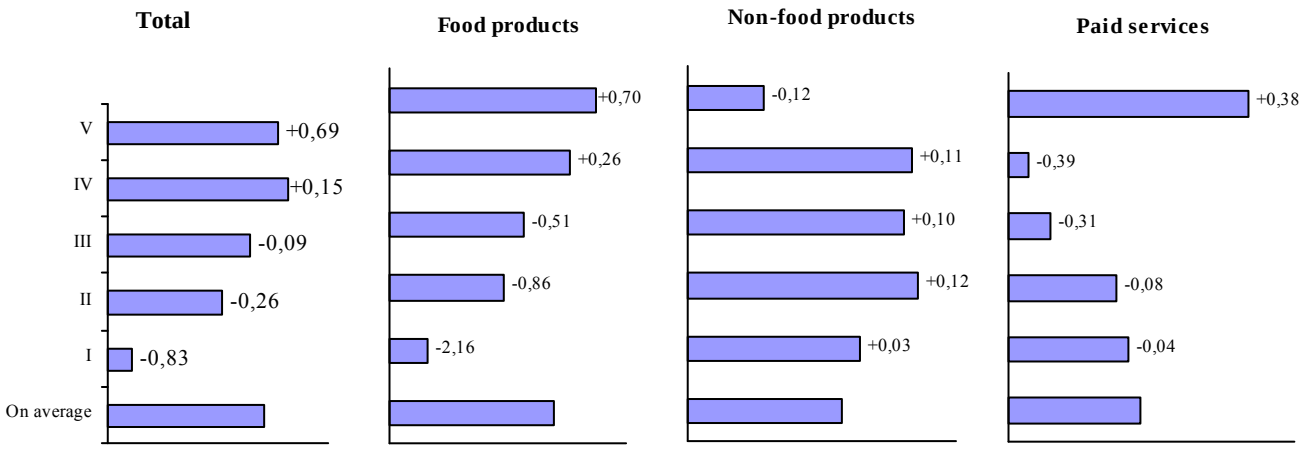
The biggest deviations of the individual CPI from the average level are characteristic for paid services; in this regard, for household members of the quintiles I-IV the individual CPI there exceeded the average level: from 2,58 p.p. in the *I-st* quintile to 0,18 p.p. – in the IV-th quintile. For the household members of the *V-th* quintile, inversely, there was registered a lagging behind of individual CPI from the average level (by 0,96 p.p.).

The calculated aggregate individual CPI by quintiles show that ***the biggest inflationary burden is born by the most needy members of the households from the I-st and II-nd quintiles (for which the aggregate individual CPI exceed the average level, respectively, by 0,31 p.p. and 0,34 p.p.). And viceversa, the least inflationary burden is born by the most well-to-do members of households from the V-th quintile (for which the aggregate individual CPI is less than the average by 0,16 p.p.).***

The individual CPI in 2008 (2007 = 100,00%). For both food products and non-food ones the trends are similar with those of 2007 (Figure 5). There is a totally different situation of the individual CPI for paid services – the highest aggregate individual CPI have been registered with the most well-to-do households of the quintiles *IV and V*.

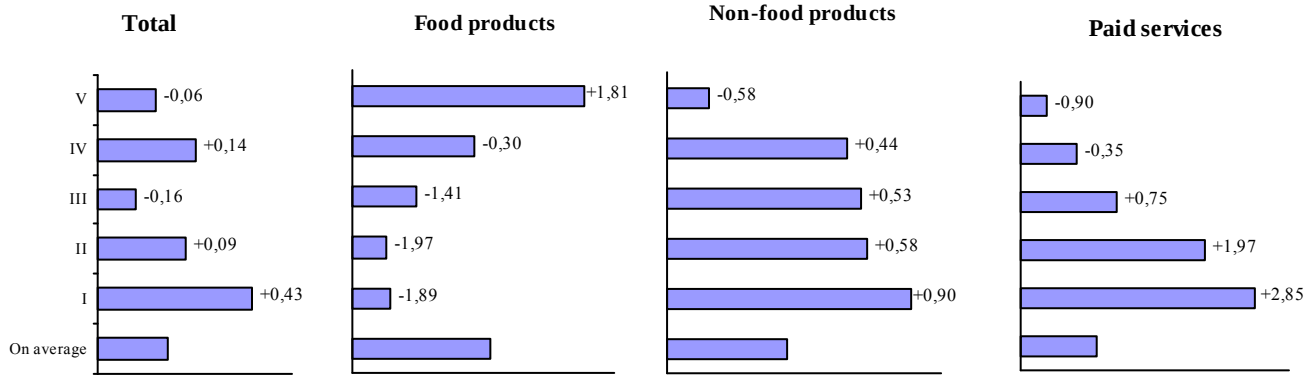
Thus, the biggest inflationary burden is born by the most well-to-do households from the quintiles 4 and 5, and the least – by most needy households of the quintiles I and II.

Figure 5. Deviation (+/-) from the average level of individual consumer price indexes by quintiles in 2008 (2007 = 100,0%)I Method



Individual CPI in 2008 (2006 = 100,00%) – *1-st* method. The same price tendencies have been notices, as for the previous two years. The highest CPI is for household members of the *I-st* quintile group (it exceeds the average level by 0,43 p.p.); the lowest CPI is in the *V-th* quintile (being below the average level by 0,06 p.p.) – Figure 6. ***This way it has been proved the general conclusion: the highest inflationary burden lies on the neediest households, whereas the most well-to-do households bear the least inflationary burden.***

Figure 6. Deviation (+/-) from the average level of individual consumer price indexes by quintile groups in 2008 (2006 = 100,0%)



The second method of calculating the individual consumer prices indexes

The second method of the individual consumer price indexes calculation is considering not only the unequal structure of consumer expenditures, but also the cross-quintile differentiation of the purchasing prices.

This approach is fully accomplished for calculation of individual CPI on food products. With regard to calculation of individual CPI for non-food products and paid services, due to insufficient amount of observations on prices and tariffs from the household budget surveys, their usage in differentiated manner by quintiles, is not possible. In this regard, for all quintiles are used similar growth rates, calculated by the National Statistical Bureau based on registered prices and tariffs.

Table 16. Growth rates of purchasing prices for some food products of the I-st and V-th quintiles (2007 in% versus 2006)

	I	*V*
Wheat flour	154,3	156,4
Corn flour	177,7	142,2
Beef	98,0	100,8
Smoked foods	111,8	102,6
Cheese and cottage cheese	129,9	124,0
Sour cream and cream	110,5	119,2
Eggs	110,4	115,2
Vegetable oil	119,9	117,6
Source: Data of the National Bureau of Statistics and authors' estimations		

Growth rates of the purchasing prices for food products, by population of various quintiles reflecting the real situation in this regard, have various trends. For some of the products (corn four, beef, sour cream and cream, butter etc.) they are higher with the population of the *V-th* quintile (versus the previous year). For other products (corn four, smoked foods, cheese and cottage cheese, sunflower oil etc.) the growth rates of purchasing prices (versus the previous period) for the population from the *I-st* quintile group is higher than for the *V-th* quintile group (Table 16).

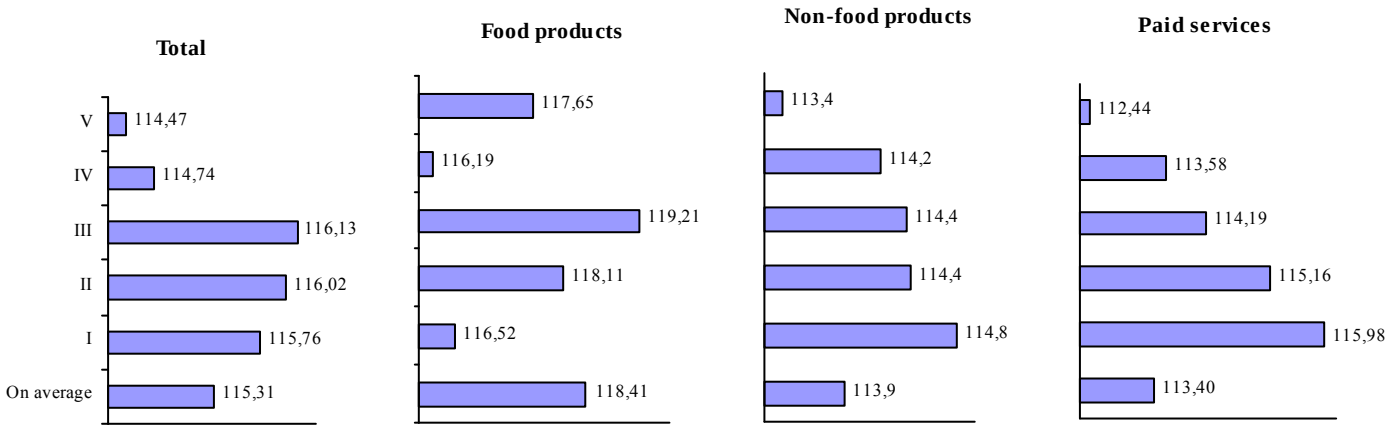
The individual CPI in 2007 (2006 = 100,00%). When using for calculation of individual CPI the prices' increase rates for the whole buscket of goods and services, comprised in the household budget surveys, as well as calculation of their differentiation by quintiles, allowed to get a more precise assessment of the inflationary processes.

Individual CPI of food products - in quintiles I-III they are higher, whereas in the quintiles IV-V are less than average.

For the households with higher incomes (quintile V), individual CPI for non-food products and paid services are lower than the average. Instead, the households with low revenues (I-IV quintile groups) the individual CPIs are above the average (Figure 7).

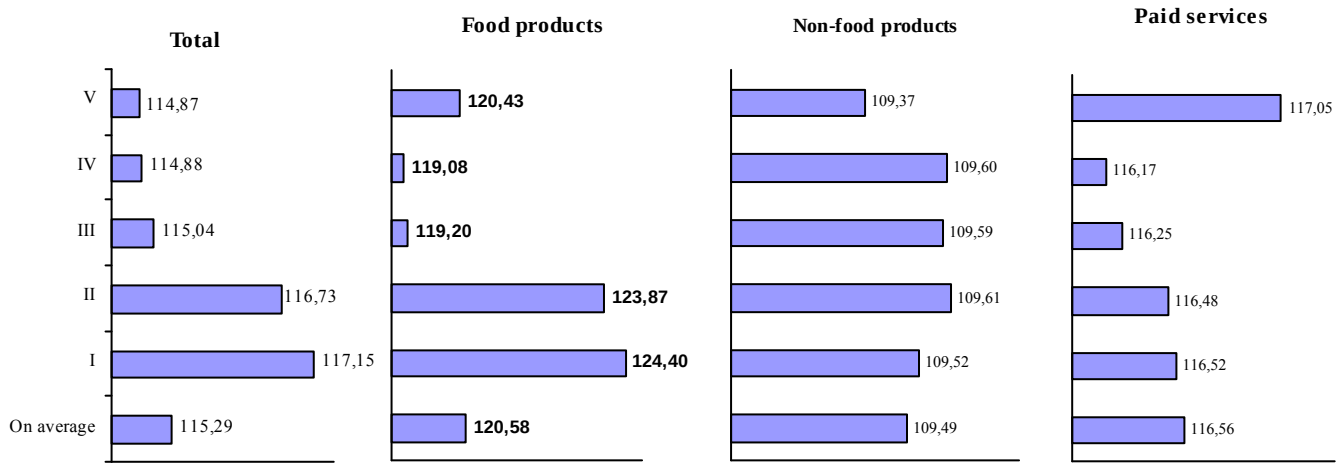
The general individual CPI by quintiles in general shows the same trends, as the individual CPI for food products.

Figure 7. Individual consumer prices indexes by quintiles, 2007 (2006 = 100%)
II Method



The individual CPI in 2008 (2007 = 100,00%). They have a more profiled decreasing trend, as much as income grows. Particular outstanding is the dependence for aggregate individual CPI: from one quintile to another quintile their size subsequently decreases. If in the *I-st* quintile individual the CPI accounts for 117,15%, than in the *V-th* one – for 114,87% (Figure 8).

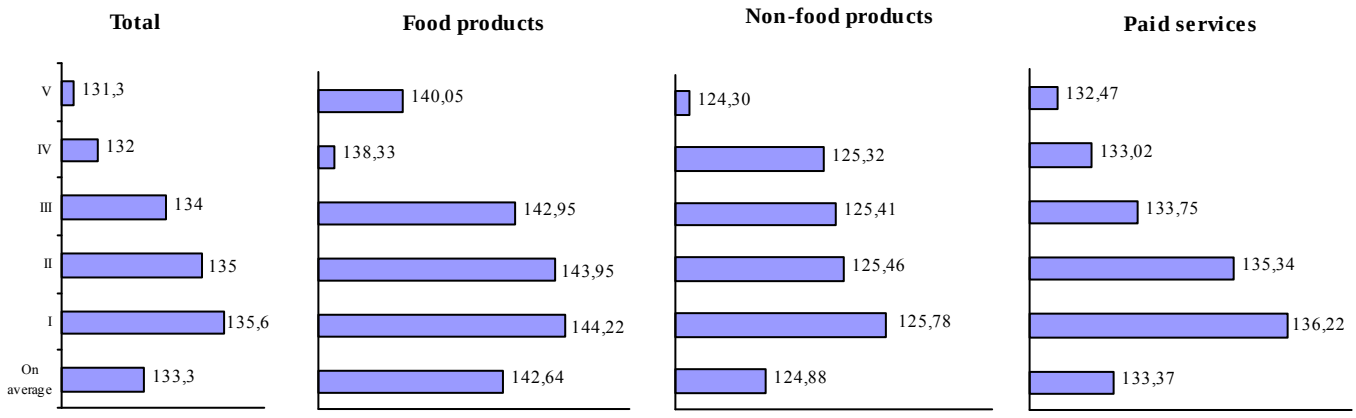
Figure 8. Individual consumer prices indexes by quintiles, 2008 (2007 = 100%)
II Method



Individual CPI in 2008 (2006 = 100,00%) – the II method. The dependence on which, once with the increasing incomes of the population, decreases the individual CPI, is typical for both individual CPI on food products, non-food products, and paid services, as well as for the aggregate individual CPI (Figure 9).

Thus, the individual consumer price indexes, calculated based on the 2-nd variant, witness a bigger, than in the 1-st variant, re-distribution of inflationary burden in favor of most well-to-do households. In 2007 (compared with 2006) least inflationary burden, than average, laid on households of quintiles IV and V (according to 1-st variant – only households of the V-th quintile). In 2008 (compared with 2007) the least, than average, inflationary burden – for households from III-rd, IV-th and V-th quintiles (according to 1-st variant – there is a totally different dependence: for households of the IV-st and V-th quintiles – the biggest, than average, inflationary burden). In 2008 (compared with 2006) the least, than average, inflationary burden, laid on households from the IVst and V-th quintiles (according to 1-st variant – only households of the V-th quintile).

Figure 9. Individual consumer price indexes by quintiles, 2008 (2006 = 100,00%)
II Method



4. Assessment of individual CPI' impact on households' incomes adjusted for different quintiles groups

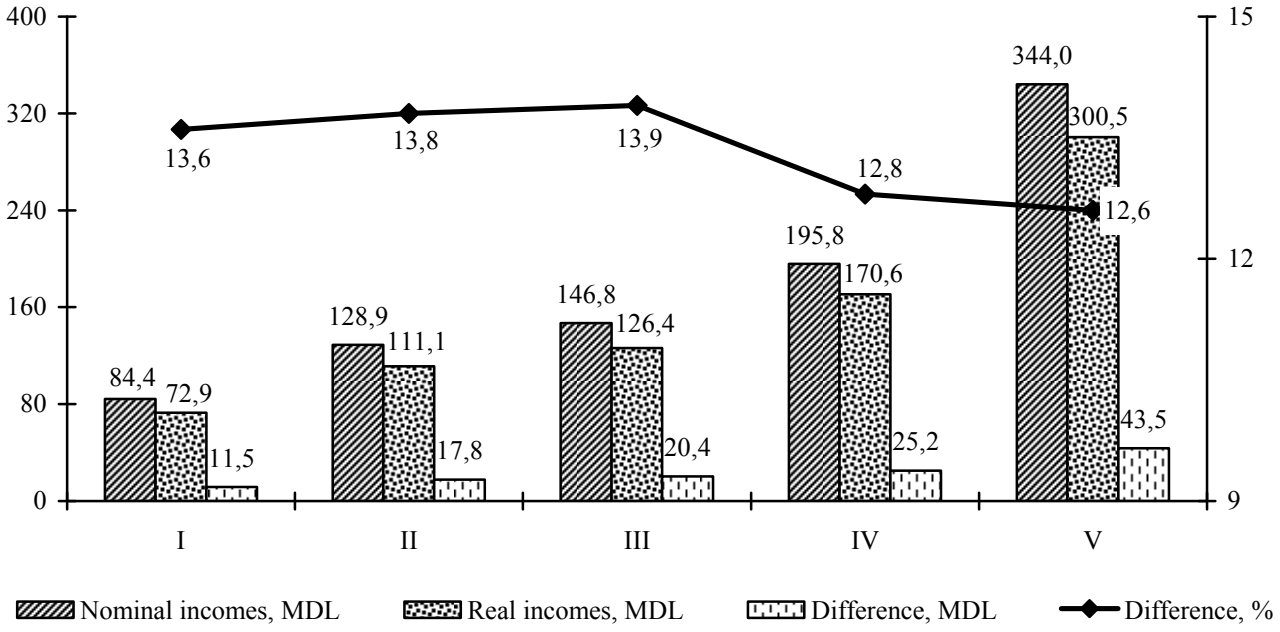
Calculation of individual CPI for each quintile makes possible to determine the size of inflationary burden on income and, this way, assess the prices' impact on the well-being of different population groups.

In 2007, compared with the previous year, the increase of average nominal monetary disposable incomes of the household members (per capita) from the *I-st* quintile made up MDL 84,4 a month. When adjusted to individual CPI, this increase diminished to MDL 72,9 and, thus, losses in income of household members from the *I-st* quintile caused by inflation amounts to an average MDL 11,5 a month (*Figure 10*).

It is evidently, that the absolute size of inflationary losses for the more secured households are high compared with less secured ones; and amounted to MDL 43,5 a month for the household members of the *V-th* quintile or 3,8 times high compared with the *1-st* quintile.

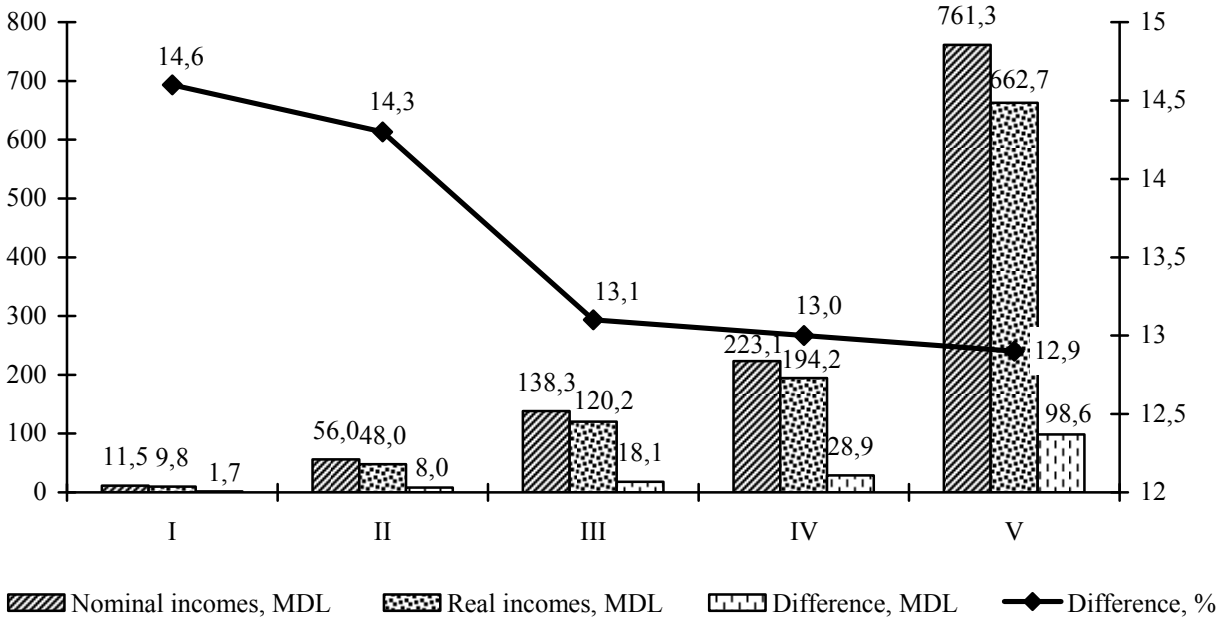
However, the analysis of the share of inflationary losses in nominal monetary incomes shows that the most inflationary burden is born by the less secured population. So, the share of inflationary losses in disposable income is amounted to 13,6% for the household members of the *I-st* quintile and 12,6 or by 1,0 p.p. less for those of the *V-th* quintile.

Figure 10. Increase of nominal and real monetary incomes (2007 compared to 2006)



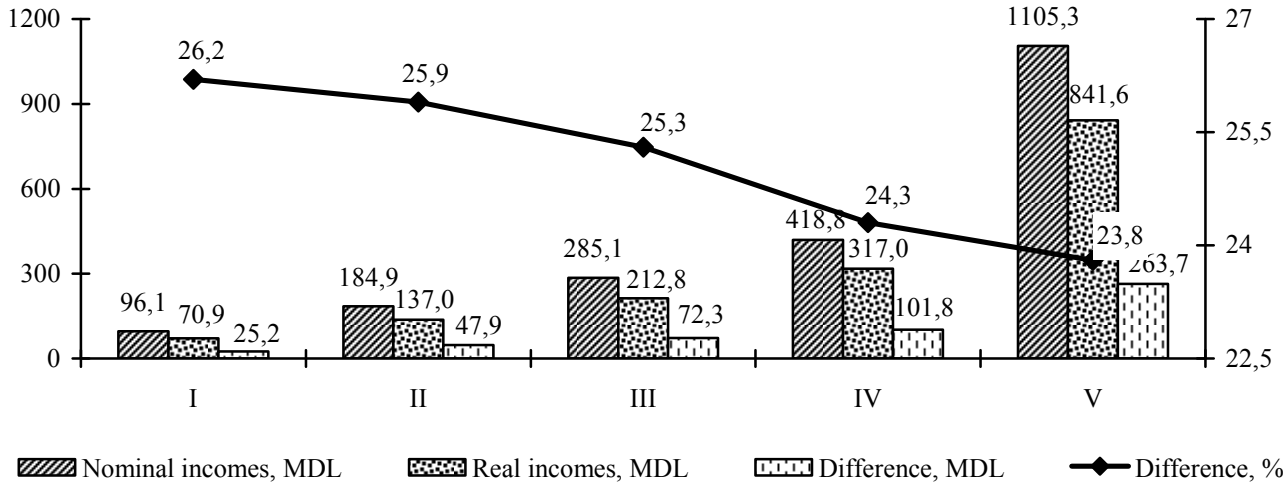
In 2008 the inflationary burden for the less secured population increased even more. For household members of the *I-st* quintile it accounted to 14,6%, whereas for the *V-th* quintile – 12,9%, or by 1,7 p.p. less (*Figure 11*).

Figure 11. Increase of nominal and real monetary incomes (2008 compared to 2007)



In 2008, compared with 2006 the inflationary losses for household members of the *I-st* quintile amounted to MDL 25,2 a month, whereas for the *V-th* quintile – MDL 263,7, or 10,5 times as much (*Figure 12*). However, compared with nominal monetary incomes, these losses decreased from 26,2% for household members of the *I-st* quintile, to 23,8% – in the *V-th* quintile group.

Figure 12. Increase nominal and real monetary incomes (2008 compared to 2006)



Thus, the prices' impact on monetary disposable incomes is different for the household members of different quintiles. On the one hand, the absolute size of inflationary losses is increased from the poor quintiles to upper ones. On the other hand, the most inflationary burden lies on the less secured population groups, as the size of personal income "eaten up" by inflation is bigger for these groups of population compared with more secured ones.

5. Assessment of prices' impact on consumption (by using a simulation model)

The simulation model allows assessing the prices' impact in terms of consumption trend of households from various quintiles.

Unfortunately, the household budget surveys do not provide the sufficient information on purchases of non-food goods and paid services. So, the available information can not be used as the background to build a trustworthy simulation model covered all goods and services, and that is why the model is built for foodstuffs only.

In order to identify the correlation between the prices and quantity of foodstuffs purchased by the population of different quintiles, the following virtual situation was imitated:

- when calculating the volume of purchased foodstuffs for the year 2008 the prices of 2006 are used. Thus, compare the effective consumer spending in 2008 with those based on the purchasing prices of 2006, one can assess, to what extent increase in prices influenced on quantity/volume of purchased foodstuffs.

On conditions that in 2008 the prices remained at the level of 2006, the volumes of foodstuffs purchased by households of different quintiles would have changed in different ways (*Figure 13*).

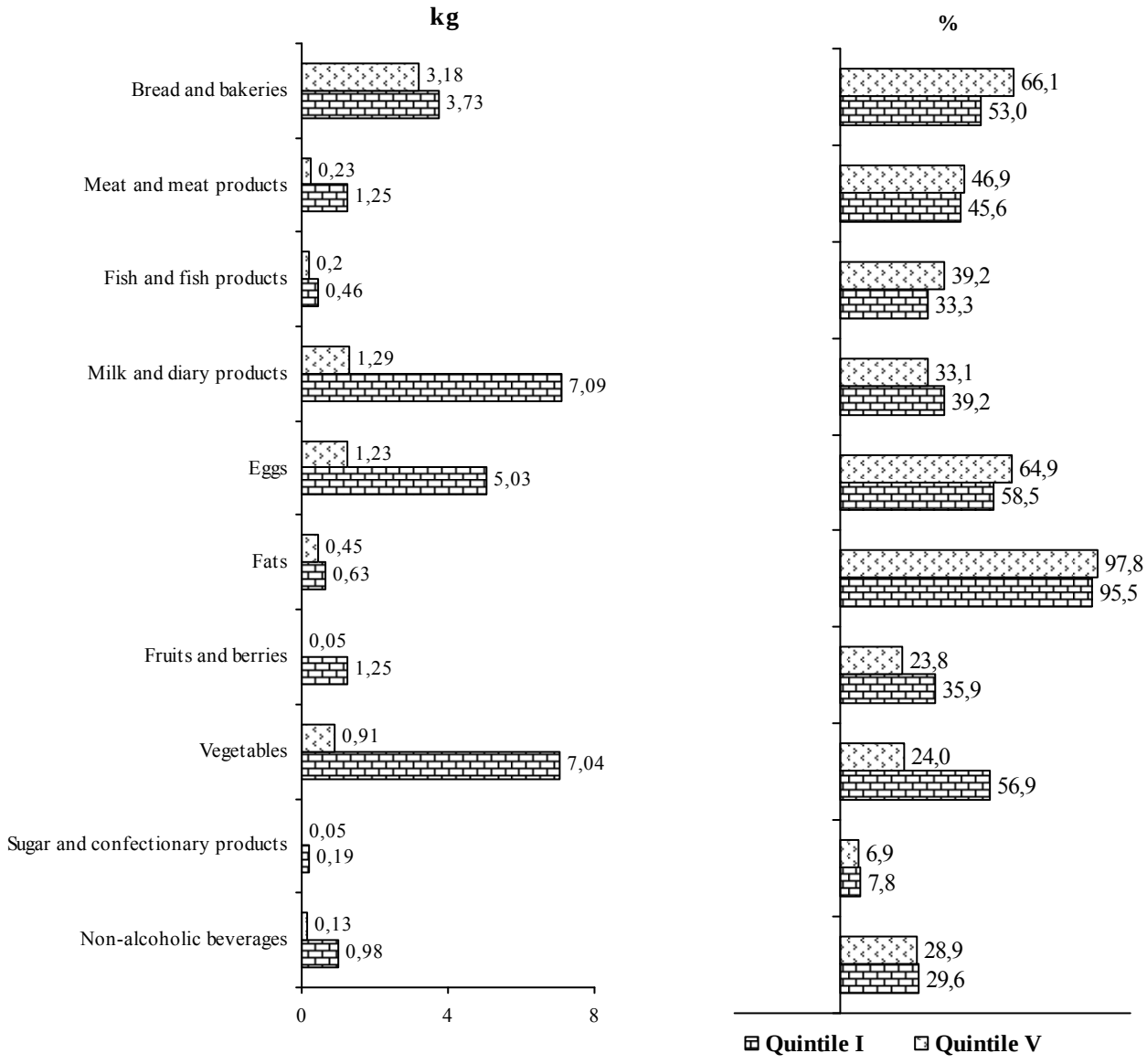
The quantity of fats, bread and bakeries, eggs, meat and meat products, fish and fish products, purchased by the population of the *I-st* quintile, would have increased at higher rates compared with the *V-th* quintile group.

The quantity of purchased *fats* would have increased by 0,45 kg/month in the *I-st* quintile and by 0,63 kg – in the *V-th* quintile. Thus, the absolute increase in quantity of fats, purchased by the population of the *V-th* quintile would have been 1,4 times high, than in the *I-st* quintile. However in relative expression the prices stability would influence more favorably on members of the *I-st* quintile households: the quantity of fats purchased by them could be increased by 97,8%, whereas in the *V-th* quintile – by 95,5%.

The increase of the purchased bread and bakeries, by members of households from the *V-th* quintile (3,73 kg/month), would have been by 17,3% more than in the *I-st* quintile group. However keeping prices at the level of 2006 would have allowed to increase the quantity of purchased bread and bakeries in the *I-st* quintile group by 66,1%, whereas in the *V-th* quintile – only by 53,0%.

The quantity of purchased *eggs* would have increased by 1,23 pieces a month in the *I-st* quintile group and by 5,03 pieces – in the *V-th* quintile group. At the same time, in relative terms, the number of purchased eggs in the *I-st* quintile would have increased at higher rates, than in the *V-th* quintile. Similar situation would have been created with regard to quantity of purchased meat and meat products, fish and fish products.

Figure 13. Increase in quantity of purchased foodstuffs in absolute and relative terms (2008 at purchasing prices of 2006, kg)



Thus, the stability of retail prices for fats, bread and bakeries, eggs, meat and meat products, fish and fish products will have the maximum effect for less secured population. The increase in quantity of foodstuffs purchased by them would be higher compared with the more secured population groups.

At the same time, maintaining the prices at the level of 2006 would ensure the increase in quantity of vegetables, milk and dairy products, fruits and berries, non-alcoholic beverages, sugar and confectionaries purchased by the *V-th* quintile at higher rates than in the *I-st* quintile (vegetables - 7,7 times, milk and dairy products – 5,8 times, fruits and berries – 25 times).

Thus, the stabilization of retail prices for vegetables, milk and dairy products, fruits and berries, non-alcoholic beverages, sugar and confectionaries would be in favor, first of all, for more secured population.

6. Policy domains and instruments influencing consumer prices and well-being of different population groups

Impact of the consumer prices on the population well-being cannot be determined by market conditions, correlation between demand and supply in consumers' market only. There are specific regulatory tools used by different countries to prevent consumer price shocks, flatten out the negative impact of higher prices for socially vulnerable groups of the population and pursue the social policies aimed at poverty and inequality reduction.

The public policies designed for leveling the impact of prices on population well-being can be sub-divided into three groups:

- anti-inflationary policy
- social policy flattening out negative prices' effects
- pricing and tariff policy.

Anti-inflationary policy

and consolidating the capacities of local and central public administration are The National Development Strategy has definded priorities for the development of the Republic of Moldova for the years 2008-2011. The Strategy identifies that ensuring macroeconomic stability is the prerequisite for achieving long-term and sustainable economic growth. The first task in this regard is "ensuring and keeping prices' stability". The main role in running anti-inflationary policy lays on the National Bank of Moldova, which, during last several years has intensified the accent on running the anti-inflationary policy:

- the primary objective of the NBM was changed – instead of "reaching and up-keeping the stability of the national currency" the main objective is to "achieve and maintain price stability";
- the regime of targeting inflation is under implementation - in 2007 the Action Plan on the implementation of the inflation targeting strategy was approved. The Action Plan stipulates, in particular, the adequate optimization of the NBM' monetary policy operations;
- the indicator of so-called base inflation is calculated and monitored – it is the price index, calculated by method of exclusion (from calculation are excluded food products, fuel, products and services with administratively established prices);
- the joint policy of the Government and the National Bank on the financial sector development was approved and being implemented, it provides for the implementation of agreed actions of the Government and National Bank to reduce inflation.

At the same time it should be noted that the choice of a new fundamental objective (price stability), the policy of the National Bank and the corresponding "adjustment" tools of monetary policy should not weaken the role of the preceding fundamental objective - ensuring exchange rate stability.

In a small open economy like Moldova is with high dependence on foreign economic relations and large volumes of imports and exports relative to domestic production, the impact of exchange rate changes on price stability is very important. It is quite difficult to expect the effectiveness of anti-inflationary policy, if the exchange rate is subject to sharp fluctuations or a significant trend towards depreciation.

The fact that high and permanently rising share of imports in GDP (81% in 2008) and a significant excess of imports over exports (in 3,1 times in 2008) have a strong threat to the growth of domestic

consumer prices in the case devaluation of the currency and "failure" stable exchange rate policy should be taken into consideration also.

The sharp devaluation of the Moldovan leu, or the tendency of devaluation include high risks of price hikes or a gradual increase in the prices' level, including for consumer goods and services.

Therefore, the policy of price stability pursued by the National Bank of Moldova should be continuously supported by the policy of currency stability, which can serve as a strong anti-inflation "anchor".

The social policy aimed to mitigate the adverse price effects.

During the recent years social policy has played a pivotal role in leveling the impact of consumer price increases on the welfare of the population, including vulnerable ones. The growth rate of income (wages, pensions, scholarships, social benefits, etc.) consistently exceeded the growth in consumer prices, which suggests there is a rise in the population living standards.

Nevertheless, the poverty and inequality issues are still an acute problem for Moldova by the reason of inaccessibility or limited accessibility to a lot of goods and services for a number of categories of the population whose incomes are increasing too slow compared with the rate of increase in consumer prices.

So, the income policy and social assistance could be used as more effective tools of the social policy and these both should be developed and improved in the future.

It is reasonable to focus the *incomes' policy* on measures aimed to provide the higher rate of income of the poor families. To mention is, first of all, the policy and measures of increasing salary of least paid workers and of pensions.

While running the incomes policy it is advisable to use more actively the following instruments:

- establishment/re-examination of the size of minimal salary in the national economy, including due to increase in consumer prices;
- use of subsistence level/minimum – the indicator reflects fluctuations of consumer prices - as a social standard when the decision to increase minimum salary, pensions, social benefits, etc. is taken.

Currently, the law "On establishing and re-examination of minimum salary» (No. 1432, 28.12.2000) sets up the legal framework for use of the minimum salary as a policy instrument and vests the Government with the right to establish/ re-examine the size of minimum salary.

However, the law does not clearly define both the reasons and time-frame for minimum salary re-examination. (salary is reviewed at least once a year based on analysis of changes in consumer price index, average salary in the national economy, gross domestic product, labor productivity and subsistence level/minimum). The use of such a "broad" list of indicators together with unjustified time-frame does not ensure the effective use of minimum salary as an instrument to regulate and protect population income, especially the poor ones, against inflation.

The mechanism of using subsistence level/minimum as instrument for both providing of minimal social guarantees and protecting the incomes against inflation needs to be improved also. The Government Decision concerning the approval of the Regulation on calculation of the subsistence level/minimum (No. 902, 28.08.2000) does not justify fields, procedures and application of this policy' instrument.

It is necessary to revise legal and normative acts in the field of both establishment/re-examination of the minimum salary in the national economy and implementation of the subsistence level/minimum calculated for different groups of population as policy' instruments aimed to protect the population' incomes, especially the poor ones, against the increases in consumer prices.

The current reforms in the field of social assistance are focused on channeling the social benefits towards the most vulnerable layers of the society. This policy to some extent assists in protection of the poor against inflation (for example, providing targeted compensations for housing and communal services, compensation for some, medicines etc.).

At the same time in order to improve the policy in the field of social assistance it would be reasonable to use both current and prognostic trends of changes in consumer prices to avoid the possible devaluation of social benefits paid and thus to ensure theirs effective use as the policy instrument.

The state pricing and tariff policies.

The functioning of a market economy does not exclude the fact that government (state) is pursuing the pricing and tariffs policy. This policy can be directed to a grater competition, maintenance of prices stability, economic protection of socially vulnerable population, etc.

In absentia of such policy the state loses one of the most important mechanisms/instruments to fight against monopolies, social inequality, inflation etc.

In Moldova, the state pursues the policy on price/tariffs, including those aimed to limit the impact of inflation on the welfare of the population, especially the poor ones.

The impact of these price/tariff policies on the welfare of the population is carried out mainly through:

- regulation of taxation of entrepreneurial activity;
- regulation of the consumer prices/tariffs for a limited number of goods and services in several sectors.

While changing sizes of various taxes (VAT, income tax, excise duties, customs tariffs, social contributions and medical insurance, local taxes etc.) the business environment for all or several sectors of economy is changed also and economic agents react on these changes by force of prices.

Thus, while raising the excise/import duties on certain groups of goods, as usual, the prices on these goods have raised too, but consumers of these goods are those who incurred costs related to increase in prices.

Increase of the VAT' rate or social contributions/medical insurance provokes, as a rule, the prices hike, and the population including the poorest ones will be burdened with additional pricing pressure.

That is why for working out the proposal on modifications of taxation it is necessary to consider the following effects, which can imply raising prices for specific types of goods and services and which can affect the interests of various categories of population. Otherwise, the expected effects of pursued policies on incomes' protection (increases in salaries, pensions, social benefits, etc/) and poverty reduction can be diminished or even missed.

In order to prevent the negative impact of the taxation policy on consumer prices (increase) and the population welfare, it is advisable the following:

- ***to calculate and monitor the level of aggregate tax burden both in national economy and by types of economic activities on a permanent basis (for calculation of the tax burden all taxes applied, including local ones, should be taken into consideration);***
- ***to maintain (do not increase) the level of aggregate tax burden when any changes in the tax legislation are introduced. The special attention should be paid on industries producing large-scale goods and/or goods of first priority;***
- ***to assess the possible changes in the aggregate tax burden and corresponding scenarios of prices development before any changes in the tax legislation will be introduced;***

- ***to develop and approve the methodology of assessment of the tax burden on entrepreneurial activity.***

The marginal trade mark-up on socially significant goods established by the Government and regulated tariffs approved by the corresponding public authorities are the instruments used for prices/tariffs regulation in Moldova.

The Government Decision No. 574 of 04.08.1995 "Concerning measures for streamlining and state regulation of prices (tariffs)" sets up the size of the trade mark-up on socially significant goods, including canned infant food, sunflower oil, dairy products, flour, bread and bakery products, medical supplies according to the list approved by the Ministry of Health and other (total of 13 groups of goods).

The share of commodity groups mentioned above and especially food products in total consumption of the less-secured population is very high, and therefore the increase in prices on food affects both theirs nutrition quality and consumption of non-food goods and services (the higher prices on food products the less access to non-food products and services).

Since the deregulation of prices for socially significant goods would cause the biggest inflationary costs (relative to the actual incomes) for socially vulnerable groups, maintenance of price regulation in this case is justified and reasonable. Taken into consideration that Moldova is one the poorest country in Europe the state price' regulation is the necessary and important instrument of economic and social policy

Table 17. Main fields of policy and mechanisms, impacting on the consumer prices and well-being of the population

Regulation fields	***Mechanisms of prices/tariffs regulation***	***Population groups whose well-being are affected by regulated prices/tariffs***	**Responsible authorities**
Taxation of entrepreneurial activity			
Taxes on entrepreneurial activity (VAT, income tax, excise duties, customs tariffs, social contributions, mandatory health insurance, local levies etc.)	Changes in tax rates have an impact on both conditions and results of financial-economic activity of the economic entities, and they react to any changes in taxation including through pricing policy (raising/decreasing market prices).	Depending on specific changes in taxation benefits/losses can be attained by all population (for example, decrease/ increase in VAT rate) or certain groups – main buyers of specific goods and services (for example, changes in excise duties or import tariffs for certain goods).	Ministry of Finance, Government and Local Public Administration
Communication			
Tariffs for main post services for the population within the Republic of Moldova	Regulated (established) tariffs	The whole population	Ministry of Informational Technologies and Communication
Transportation			
Tariffs for all types of passenger transportation (except for fixed route taxi and public transport)	Regulated (established) tariffs	The whole population	Ministry of Transport and Road Infrastructure

Regulation fields	*Mechanisms of prices/tariffs regulation*	*Population groups whose well-being are affected by regulated prices/tariffs*	**Responsible authorities**
Tariffs for passenger transportation by public transport units (in rayons, cities and other residential settlements)	Regulated (established) tariffs	The whole population	Local Governments together with the Ministry of Transport and Road Infrastructure
Housing and communal services			
Natural gas, electricity and heating	Regulated (established) tariffs	The whole population/ population used centralized heating and hot water supply	National Agency for Energy Regulation
Tariffs for house rate (including charges for accommodation in hostels)	Regulated (established) tariffs	Population, pays the rate	Local Public Administration
Services for the export of sewage, garbage, snow, and mechanical harvesting of streets and roads	Regulated (established) tariffs	Population used garbage disposal	Local Public Administration
Socially significant products/ essentials (some food products, certain goods for children, detergents, cement)	Regulated (established) commercial surcharge	The whole population, in particular the less secured ones, spending significant part of income for the foodstuffs	Ministry of Economy
Health care			
Medicines and medical products produced in Moldova	Regulated (established) limited commercial surcharge	The whole population	Ministry of Health
Paid medical services, provided by the public health institutions	Regulated (established) tariffs	The whole population	Ministry of Health

At the same time both the policy and mechanisms of state price' regulation are needed to be improved.

Despite the fact that the state policy in the field of prices and tariffs is pursued and implemented in Moldova the common policy in the field doesn't exist, the sufficient legal framework is missing and there are some gaps/discrepancies within the legislation in force.

Principles, rules, procedures and instruments of pursued policies in the field including those regulated prices/tariffs on consumer goods/services are scattered all over the legislation, thereby the specific price is regulated by its "own" legislation/public authority. For example:

- prices on socially significant goods are regulated by Government (Government Decision "Concerning measures for streamlining and state regulation of prices (tariffs)" of 04.08.1995);
- tariffs on electricity, heat/hot water and natural gas are regulated/approved by the National Agency for Energy Regulation (Law on gas (No. 136, 17.09.1998; Law on Electricity (No. 137, 17.09.1998); Law on Energy (No. 1525, 19.02.1998); Government decision concerning approval the Regulation on National Agency for Energy Regulation (No. 1511, 31.12.2008) and different normative acts issued by the Agency);

- tariffs in the field of telecommunication (fixed telephony, e-communications of common use provided to final consumer) are regulated by the National Regulatory Agency for Electronic Communication and Information Technology (ANRCETI) (Law on electronic telecommunications (No. 241, 15.11.2007), Government decision concerning approval the Regulation on ANRCETI (No. 905, 28.07.2008 and different normative acts issued by the ANRCETI);
- prices on medicines are regulated by the Ministry of Health (Parliament decision on approval the state policy in the field of medicines (No. 1352, 03.10.200) and Government decision on pricing of medicines, medical services and other pharmaceutical products (No. 603, 02.07.1997)).

Instead of the fact that development and implementation of the common state policy in the field of prices is under the Government competence (Art. 13, Law on Government, No. 64,31.05.1991) the legislation in force does not clearly specify the frame, common objectives and rules of the state price/tariff policy.

There is a series of discrepancies concerning the institutions and mechanisms of regulation the prices and tariffs. Thus, the article 20 of the Law on Competition (No. 1103, 30.06.2000) stipulates that the prices regulation/control is an exclusive competence of the Government (art. 20) and links this function only with the need to protect competition and prevent the abuse of dominant position on the market. At the same time, according to other legal-normative acts, with the right to regulate prices and tariffs are vested also the regulation bodies in certain sectors of economy, which are not part of the Government structure.

The objectives, principles and mechanisms for price/tariff regulation used by different public authorities are differed also.

On the one hand very specific approaches to pricing are reasonable because the price regulation is used in very different sector/areas. On the other hand this uncoordinated regulation reduces the effectiveness of the applied policies including the impact of changes in prices on the well-being of the population. Thus, the costly measures of social protection of the population in such cases can be of low effect or even idle.

In order to meet the existing contradictions and inconsistencies within the legislation in force, it is advisable to develop and approve the draft law "On state policy in the field of prices and tariffs.

This law will provide the legislative framework for common state policy in the field of price and tariffs and streamline the mechanisms of its implementation.

The law is supposed to establish also:

- economic and social objectives and basic principles of state policy in the field of prices and tariffs, including for consumer products and services
- fields (areas) and limitations, forms and instrument of prices/tariffs regulation
- institutions, responsible for formation and running public policy in the field of state regulation of prices and tariffs, spheres of their competencies and responsibility
- order of institutional interrelation, including the interrelations between both governmental bodies and non-governmental agencies, as well as between various institutes and Agency for protection of competition, whose role in running the state pricing and tariff policy should be strengthened
- special resolution on policy and actions of the public management bodies in field of regulation of consumer prices and tariffs in case of unfavorable pricing situation (unpredicted leap of prices for first necessity goods).

The draft law should be discussed broadly and publicly, given that the issues of state policy on prices and tariffs touch upon the interests not only of the population, but also of the entrepreneurs, investors, employers, etc.

In order to make the state policy in the field of consumer prices and tariffs more grounded and targeted, it is necessary to improve the system to monitor prices and tariffs following the trends of individual consumer price indexes calculated for different groups of population. So it is advisable to elaborate and implement the Methodology for calculation of individual consumer price indexes.

Despite the fact that the National Bureau of Statistical permanently improves the methodology of data collection, registration and calculation of consumer price indexes, in order to provide for more detailed tracing out social effects of the price rates, one could use additional methods, one of them could be calculation and monitoring of individual price indexes (see Chapter 3 for more details "Trend of Individual Consumer Price Indexes). This will make possible not only get more detailed information on the impact of the price trend on the living standards of various population groups, but also work up more reasoned, selective and effective measures of protection of various population groups from the unfavorable impact of the evolution of the consumer prices and tariffs.