

The effect of inflation on welfare of the population and Russian market capacity

Leonidova Alla^{1,*}

¹Candidate of Economic sciences, Reshetnev Siberian State University of Science and Technology, 660000, Krasnoyarsk, Russia

Abstract. The material basis of welfare of the population is its income. However, the inflation negatively affects current incomes of the population and market capacity determined by the value of current incomes. Given the variable dynamics of inflation, it is necessary to evaluate its impact on household incomes and market capacity using the accumulated inflation rate with a scientifically based reference point. This calculation option will allow us to determine the dynamics of real average per capita incomes and market capacity calculated in constant prices of the reference point, assess the problem and its impact on the economic development. The low level of real per capita incomes and their negative dynamics are aggravated by loans of the population which reduce the market capacity and make the domestic market less attractive for manufacturers.

1 Introduction

In Russia, inflationary processes have a significant impact on the economy. Even the slowdown in inflation that has been observed in the Russian economy over the past five years has not become a positive factor for the domestic economy.

The official annual statistics on inflation and income does not characterize the economy based on the dynamics of the welfare of the population and market capacity which determines the potential for the development of the domestic economy and its short and medium term goals.

To overcome this problem, it is necessary to assess the dynamics of current incomes of the population by accumulated rather than by annual indicators. This can fix the dynamics of real incomes of the population and explain current changes in the Russian economy. For example, its export orientation is not only in the raw materials sector, but also in the food one.

The purpose of the study is to determine the level of real incomes of the Russian population in the current period by calculating the indicator of accumulated inflation and to justify economic risks that arise in such conditions.

2 Results and discussion

Welfare is a complex category considered by specialists from different points of view:

1. utility;
2. maximizing wealth;
3. a macroeconomic indicator of effectiveness of the economic growth;
4. an institutional category;
5. a special role in the social market economy;

6. regulation of market externalities;

7. a unity of two categories: “living standards”, “quality of life” [1].

The plurality of points of view on the category of “well-being” has not been overcome; however, based on the structure of the word itself, well-being can be considered as a provision of the population with required material and non-material goods that satisfy human needs. In a broad sense, based on income and consumption, welfare includes working and living conditions, the volume and structure of working and free time, cultural and educational levels, health, demography [2].

In both approaches, well-being is assessed by a system of quantitative and qualitative indicators. The average per capita income indicator will be used as a basic indicator of the well-being of the population.

Since the per capita income indicator has a cost estimate, one of the factors affecting it is inflation. Inflation is an increase in the general price level. The main negative result of inflation in relation to the welfare of the population is depreciation of the result of labor, i.e., the depreciation of incomes [3].

Inflation is assessed by two indicators:

- a price index which is calculated on different bases of goods and services, but the main calculation principle is weather-based, that is, when determining the current price index of, this indicator is taken as 1, or 100%;
- an inflation rate which is an incremental indicator which captures the rate of inflation [4].

Consumer price indices (CPI) for goods and services and inflation in Russia are presented in Table 1.

Table 1. Dynamics of the CPI and inflation in Russia, %.

	2014	2015	2016	2017	2018
CPI	111.4	112.9	105.4	102.5	104.3

* Corresponding author: all283@mail.ru

Inflation rate	-	1.33	-6.64	-2.75	1.75
----------------	---	------	-------	-------	------

Calculated by [5].

In 2014 and 2015, there was a surge in the inflation rate. Experts attribute this surge to the sanctions of developed countries against Russia, and a sharp drop in the ruble exchange rate. After the ruble depreciation, there were rising prices, a limited volume of imported goods and a surge in prices for goods and services of Russian manufacturers.

By 2017, inflation slowed down (the inflation rate is negative). Producers and people began to adapt to the changing economy. But attempts to present a decreasing inflation rate as an increase in real incomes and wellbeing seem incorrect and cause macroeconomic decisions that limit the economic growth.

In order to really assess the impact of inflation on the welfare of the population, it is necessary to determine the starting point of current changes. Taking this point for the base period, it is necessary to calculate the accumulated price index which determines the extent of the decline in real incomes of the population.

We took 2014 as a starting point, because this year, after the economic recovery and a decrease in inflation after the Second World Economic Crisis, there was a surge in inflation, which significantly affected well-being of Russians. The base year was 2013.

Table 2 presents the accumulated price index calculated for 2014-2018.

Table 2. Accumulated consumer price index in Russia for 2014-2018, %.

	2014	2015	2016	2017	2018	CPI _{acc.}
CPI	111.4	112.9	105.4	102.5	104.3	141.72

Calculated by [5]

The accumulated consumer price index shows that for 2014-2018, prices for consumer goods and services increased by 41.72%. Using this indicator, we can assess the level of well-being of the population (see: Table. 3).

As mentioned above, to assess the level of well-being, we will use the real average per capita income. The statistics systematizes information on the nominal per capita income which reflects the dynamics of cash income. The cash income is affected by the purchasing power of the national currency or the dynamics of prices (inflation). "Taking" inflation out of the nominal income, we can obtain the real income which reflects the amount of goods and services that can be bought for the amount of money received in the current period. The calculation of real per capita income is feasible by dividing the nominal income of 2018 by the consumer price index accumulated from 2014 to 2018.

Table 3. Real per capita income of the Russian population in 2018 in 2013 prices, rubles.

	2013	2018
Per capita nominal income	25684	33010
Per capita real income	25684	23292

Calculated by [6]

Calculations presented in Table 3 show that in 2018 the real average per capita incomes of Russians (in 2013 prices) decreased by 2,392 rubles per month and amounted to 23292 rubles.

Since when calculating the consumer price index, the price dynamics of food products, non-food products and services is used, we will analyze which of these groups of goods has influenced the inflation process to a greater extent. To do this, let us calculate the accumulated inflation for each of these groups of goods and services.

Table 4. CPI dynamics for 2014-2018 and accumulated CPI for 2014-2018, %.

	2014	2015	2016	2017	2018	CPI _{acc.}
CPI	111.4	112.9	105.4	102.5	104.3	141.72
Food	115.4	114.0	104.6	101.1	104.7	145.66
Non-food	108.1	113.7	106.5	102.8	104.1	140.08
Paid services	110.5	110.2	104.9	104.4	103.9	138.56

Calculated by [7]

The largest contribution to the accumulated inflation level was made by an increase in food prices (granulated sugar CPI_{accumulated} = 208.2%, butter CPI_{accumulated} = 135.9%). The dynamics speaks for the relatively low standard of living and the level of well-being of the population of Russia, since the value of the population influences the consumer price index, and the accumulated consumer price index.

At the same time, the excess of the accumulated consumer price index for the food product group indicates that severity of inflation processes is borne to a greater extent by low-income Russians, who have to sacrifice food quality to ensure its quantity.

The minimum level of the accumulated CPI was demonstrated by prices of services. The highest level was achieved by the accumulated education price index. It should be noted that some prices are regulated by the government (utility tariffs, higher education fees). Therefore, this accumulated price index is underestimated.

A special situation is with the accumulated education price index equal to 163.2%. An increase in education prices limits affordability of the population to receive education.

Let us analyze the data presented in Table. 3. A decrease in real per capita incomes for 2014-2018 determines capacity of the Russian market which has remained unchanged since 2013.

This situation has been aggravated by credit obligations of the Russian population. At the beginning of 2019, the amount of debt obligations exceeded 55 trillion rubles. In 2018, the debt of the average Russian family amounted to 234 thousand rubles, the growth of debt in 2018 was 19% for 12% of debtors, loan payments exceeded 50% of the current income. The total debt obligations of Russian citizens exceed their accumulation 7 times. Currently, 59% of the working age population have loans, 13% of Russians borrow money to pay off old debt.

The level of debt load (the ratio of loan debt to per capita income) is growing rapidly in Russia. In 2018, the level of debt loan of Russian households reached 27%, an increase of 5 points over the year [9].

Loans have a dual impact on the economy. On the one hand, the market capacity increases in the areas of its use at the time of using credits. On the other hand, the market capacity decreases significantly in the period of its return. Because of the borrower, who pays interest for the use of money in addition to the principal debt.

The degree of subsequent decrease in market capacity depends on the growth rate of loan debt and changes in its structure. The results of the analysis of the dynamics of the growth rates of loan debt and mortgage debt and the dynamics of the share of mortgage loans in the total loan debt of individuals in Russia in 2014 – 2018 are presented in table 5.

Table 5. Dynamics of loan debt of individuals in Russia in 2014-2018.

	01.01 2015	01.01 2016	01.01 2017	01.01 2018	01.01 2019
Loan debt of individuals, billion rub.	11005	10367	10619	12036	14752
Rate of growth,%	-	94.19	102.43	113.34	122.57
including debt on mortgage loans of individuals, billion rub.	3391.9	3851.2	4422.2	5144.9	6376.8
Rate of growth,%	-	113.54	114.83	116.34	123.94
Share of mortgage debt in total personal loan debt, %	31.96	37.74	42.04	43.00	43.37

Calculated by: [10]

According to the analysis, the loan debt of individuals in Russia for the reviewed period is growing at an increasing rate. The mortgage debt is growing at an even higher rate, and the share of it has increased from 31.96% to 43.37%.

Mortgage lending is long-term process. And as a consequence carries a large overpayment in the period of lending. It is negatively affecting the capacity of the market in the future. However, mortgage borrowers are the most disciplined borrowers, due to the collateral nature of the loan and the size of the loan payment. The use of income by credit borrowers begins with credit payments. It reduces the current market capacity for a long period.

Consequently, debt obligations have a negative impact on capacity of the Russian market which is already not growing.

Therefore, debt obligations negatively affect the capacity of the Russian market.

The persistence of negative trends in the level of real incomes and capacity of the Russian domestic market makes it impossible to develop Russian production operating on the domestic market. As a result, Russian manufacturers are again turning towards export.

Moreover, the raw materials sector as well as some other industries are export-oriented. For example, agricultural enterprises export grain (especially wheat) and high-quality meat (marbled beef).

According to Forbes, in 2017-2018, Russia ranked first in the world in wheat exports. In 2018, Russia harvested 113.5 million tons of grain, including 72 million tons of wheat. According to the Ministry of Agriculture of Russia, grain exports exceeded 53.4 million tons, including 40.5 million tons of wheat. In 2018, cereals exports ranked third in the ranking of Russian exported goods [11].

At the same time, Russian bakers said that in order to maintain affordability of bread for the poor, they will partially use fifth-grade wheat (fodder) along with fourth-grade wheat.

The similar trend is typical of the fish market (the eleventh place in Russian exports). About half of fish is exported to China and Korea for processing and importing to Russia.

According to the Institute "Development Center" of the National Research University "Higher School of Economics", exportation of raw materials and other products leads to the fact that in 2017, the internal economy strengthened the creditor's status. On the background of a decrease in investment, the economy increased the amount of exported resources. The crediting level for the rest of the world increased to 2.6% of GDP by comparison with 1.9% in 2016." [11, p. 12].

The export benchmarks of the Russian economy for raw materials and processed products (including agricultural products) cause provision of raw materials and restriction for its economic future development.

Exportation of products with a low added value and importation of goods with a high added value aggravate the raw material nature of the economy, redistribute the income to other countries and contribute to the growth of prices of imported (due to the low rate of ruble) and domestic consumer goods and services.

Raw materials and products of its primary processing with a low added value rank first in the Russian export. According to the share of these products in GDP, the level of economic development can be assessed.

A decrease in real per capita incomes of the population decreases capacity of the Russian market.

At the same time, without high-quality human capital, the innovation development of the economy is impossible. The human capital is qualitative characteristics, but it is impossible to form the high-quality human capital without ensuring a high level of well-being of the population.

Experience of Russia and other countries shows that the problem of lacking human capital cannot be solved by mass migration of the population; it is impossible to buy high-quality human capital for the economic needs. Consequently, it can only be developed in one's own country. For this purpose, it is necessary to create material conditions.

3 Conclusion

Our study showed that using the current inflation level to determine the dynamics of per capita incomes as an indicator of well-being leads to an incorrect interpretation of this dynamics.

Therefore, we suggest using the accumulated inflation level. The period of "accumulation" depends on the state of the economy (sharp positive or sharp negative changes leading to sharp fluctuations in inflation).

For the current Russian economy, we suggest taking 2014 as a starting point at which economic sanctions against the Russian economy were imposed. They affected the domestic financial market.

The accumulated consumer price index calculated on the basis of the official data of the Federal Statistical Service of the Russian Federation amounted to 141.72%.

The 2018 real average per capita incomes of the population determined using the accumulated consumer price index in 2013 prices shows that it has not recovered to the 2013 value which is manifested in the low capacity of the Russian market.

In addition to the low real level of per capita incomes, debt obligations of the population affect the market capacity. Loans are used by the Russian population to maintain current consumption, buy household appliances, cars and cover previous loans.

The result of low market capacity in the context of expanding import substitution and production growth in certain sectors (for example, agriculture) is a reorientation of vibrant industries from the domestic market to the external one. But the revitalizing sectors do not produce products with a high added value, and primary processed products or raw materials are exported. As a result, grain and fish, energy resources and metallurgy products are exported. With this set of exported goods, Russia plays a lender's role in the world.

All these negative trends extrapolate the following trends: restrictions on the development of human capital due to negative trends in the level of well-being of the population, raw materials restriction due to the rapidly developing trend of raw and non-primary exports with a low share of added value. These trends make it very difficult to develop an innovative economy in Russia without which it is impossible to compete with developed and rapidly developing countries.

References

1. T. A. Sobol Bulletin of the Moscow University named after S. Yu. Witte. Series 1: Economics and management. J. E 2, 7-14 (2018)
2. O. M. Govor The Essence of the concept of "Standard of living". The ratio of the concepts of standard of living, quality of life, well-being. Retrieved from : <https://cyberleninka.ru/article/n/suschnost-ponyatiya-uroven-zhizni-sootnoshenie-ponyatiy-uroven-zhizni-kachestvo-zhizni-blagosostoyanie> (2016)
3. D. S. Taraskin Concept. J. E 4, 398-405 (2017)
4. The impact of low inflation on people's lives and business conditions. Retrieved from : http://www.consultant.ru/document/cons_doc_LAW_309734/7a3b3ad413d84e45512d28b0b09763d0ce5aa698 (2019)
5. Consumer price indices for goods and services in the Russian Federation 1991-2018. Retrieved from : http://www.gks.ru/wps/wcm/connect/rosstat_main/rossstat/ru/statistics/tariffs (2019)
6. Average per capita income of the population. Retrieved from : http://www.gks.ru/wps/wcm/connect/rosstat_main/rossstat/ru/statistics/population/level/# (2019)
7. Consumer price indices for the Russian Federation in 1991 – 2019. Retrieved from : http://www.gks.ru/free_doc/new_site/prices/potr/tab-potr1.htm (2019)
8. World breadbasket: Russia's income from grain exports increased by 40%. Retrieved from : <https://www.forbes.ru/biznes/373849-mirovaya-zhitnica-dohody-rossii-ot-eksporta-zerna-uvlichilina-40> (2019)
9. E. Belyaev The debt load of the Russian population by 2019. Retrieved from : <https://baikalinvestbank-24.ru/poleznye-stati/zakreditovannost-naseleniia-rossii-2019.html> (2019)
10. Debt on loans granted to resident individuals Retrieved from : <https://www.cbr.ru/statistics/udstat.aspx?Month=01&Year=2014&TblID=4-5> (2019)
11. What GDP says: chronicle of structural changes. Higher school of Economics. Institute "development Center". Issue 3. Retrieved from : <https://dcenter.hse.ru/prog> (2018)