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Influence of the Financial and Economic Crisis of the Years 2008-2009 on the Economy of Krasnoyarsk Region

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The article considers the influence of the world financial and economic crisis on the Krasnoyarsk region macroeconomic dynamics and structural changes in consumption and maintaining households, and compares it with the Russian economy as a whole. Living standards of the local population are higher than the country average, but the crisis had a stronger effect on them. Despite this, the economy of the region remains more stable. The State government bodies should not allow excessive growth of the marginal propensity to consume and let the destabilization of the macroeconomic dynamics. At the same time, it is necessary to take time-effective measures aimed at diversification and overcoming the export focus on raw materials.

Keywords: the economy of Krasnoyarsk region, macroeconomic dynamics, the world financial and economic crisis, structural changes, consumption of population.

Introduction

The crisis of the years 2008-2009 can be defined as the first Russian economy crisis since 1991, caused by some market factors. It cannot be considered to be the effect of only external or internal reasons. It is the combination of these factors that makes it specific.

The external impulse that launched the crisis processes was the events that took place on the world financial markets, that caused the abrupt fall at the Russian securities market. The Russian financial system easily “imported” the crisis because of its strong dependence on the foreign financial sources. Before the crisis, the increase of the banking system liabilities was mostly ensured

by foreign investments: in the first six months of the year 2008, the increase of net foreign assets within the banking system counted up to 13,7 %, while the rate of the internal assets increase was 5,2 %.

In such conditions, the credit grip, which took place on foreign markets, immediately affected the Russian one. Export sectors appeared to be also dependent on foreign markets. The largest shares of overdue accounts receivable and payable by the turn of the year 2008 were typical for fuel and energy production sector: 16,9 and 17,0 %, respectively. Thereby, the external impulse was transformed into a strong internal factor of recession.

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The crisis in the banking system also entailed an industrial recession. In 2008 the increase of funds, provided to the non-financial sector (natural persons and organizations) by the banks, counted up to 40,9 % of gross capital formation; it means that increase of the non-financial sector capital was supported with the funds of banks for 40,9 %, which shows that Russian economy is very much dependent on the financial sector. When the crisis began, the situation dramatically changed: during the first six months of 2009 the gross capital formation consisted of bank funds for only 0,6 %. This large-scale and rapid credit grip led to reduction of aggregated demand, and, as a consequence, the decrease of the industrial production index in January-September of 2009 by 13,5 % and increase of the unemployed people number by 52,1 % in the second quarter of 2009 in comparison with the same period of the previous year.

The influence of the crisis on various regions of our country was uneven. Krasnoyarsk region plays a leading role in the Russian economic system. With the population accounting for 2 % of the total population of Russia, at the beginning of 2008 the region accounted for 2,6 % of the gross domestic product. The state and dynamics of its social and economic processes influence All-Russian indicators to a considerable degree.

Results

The situation in Krasnoyarsk region was better than the average in Russia. The index of gross regional product (GRP) in 2009 decreased by 1,5 %, which is better than the average rate in Siberian Federal District (-4,1 %) and in the country (-7,6 %). The restoration after the crisis appeared to be fast enough: in 2010 the economic dynamics of Krasnoyarsk region already grew by 5,8 %, which currently is the second rate in Siberian Federal District (SFD) and exceeds the average country rate of 4,5 %.

The reason of such resistance the regional output to the crisis processes is the industrial structure of its GRP. The high ratio of industrial production in the economy, where metallurgy (nickel, aluminum, copper and cobalt) prevails and counts up to 2,6 % of national export, is typical for Krasnoyarsk region (see Fig. 1). Industry produces 56,4 % of GRP, transport and telecommunications account for 8,5 % of GRP, trade and service for 23,9 %, construction sector for 7,0 %, and agriculture for 4,2 %. In the actual regional industry structure, the share of processing sector is considerably lower than that of mining industry. During the last decades, the problem of changing the proportion to expansion of processing sector was brought up numerous times, but the structure of GRP was not seriously changed.

The regional specialization on raw materials export makes its economy sensitive to the conjuncture of the world non-ferrous metals prices than to the domestic economic processes. The world raw materials markets also suffered from the financial and economic crisis. In 2008 the world prices on non-ferrous metals dropped by 20,2 %, which also affected the position of the first-rate regional manufacturers.

It must be the reason of unemployment increase by 3,1 %, which took place in the region in the years 2008-2009, and exceeded the average rate in SFD (+2,2 %) and Russia on the whole (+2,1 %). Though in 2010 the unemployment rate in the region for the first time became lower than the average in Russia and accounted for 6,3 % (see Fig. 2), which is connected to active development of mining industry.

The consequences of the crisis for the population were very considerable. Besides the increase of unemployment, in the year 2009 the real income of the population dropped by 3 %, while the average increase of this indicator in the country was 3,7 %. The losses the population

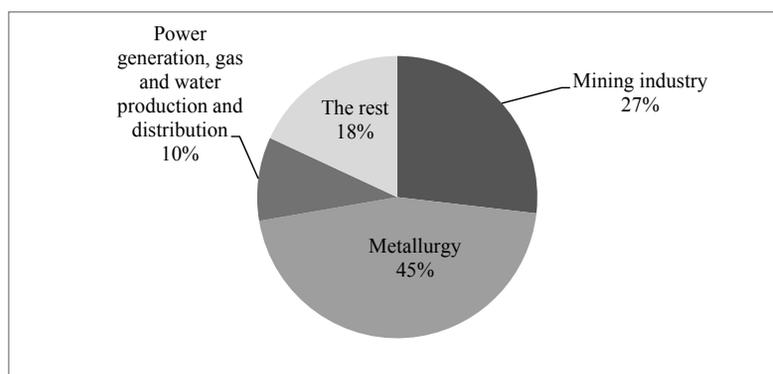


Fig. 1. The main components of the total industrial yield structure in Krasnoyarsk region, 2010

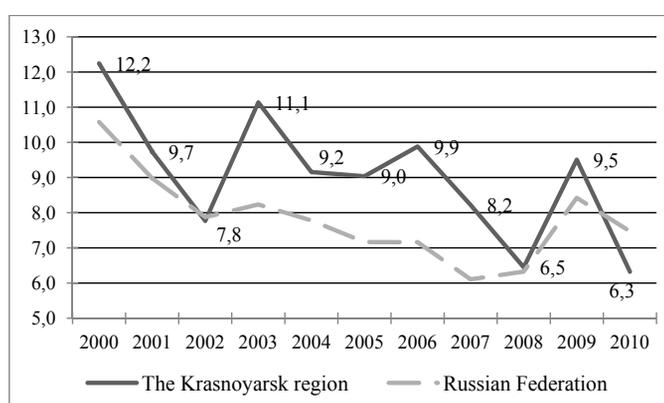


Fig. 2. Dynamics of unemployment rate in Russia and Krasnoyarsk region in 2000-2010

of the region suffered during the crisis were large because of the urge of the leading export companies to reduce the price of their production rather than output.

For the purpose of analysing the consumption of the population over the period from 2008 to 2011, the Keynesian functions of consumption of the Krasnoyarsk region population were calculated with the least-squares method. When developing the consumption functions, J. M. Keynes proceeded from the so-called absolute income hypothesis, according to which, households consumption depends on the absolute value of their current income. He expressed the nature of this reliance in his “basic psychological law”: “People usually tend

to increase their consumption as their income grows, but not to the same extent as the income growth”. The value that demonstrates how much the measure consumption changes as the current income changes by increment, is called “marginal propensity to consume” (MPC). The general view of the Keynesian function of consumption is $C = C_a + MPC \times Y$, where C_a is autonomous consumption, which does not depend on income and exists even when the income is zero. On the basis of the considered indicators, the multiplier of autonomous expenditures is calculated as follows: $m = 1 / (1 - MPC)$. It shows how much the balanced national income changes with the change of the autonomous expenditures change by increment.

Table 1. Keynesian functions of consumption for Krasnoyarsk region and the values of the autonomous expenditures multiplier.

Period	Functions of consumption	Multiplier
Beginning of the year 2004	$MPC = 0,739$	3,83
Beginning of the year 2008	$C=94,2+0,806Y$	5,15
Beginning of the year 2010	$C = 118,4 + 0,655 Y$	2,90
Beginning of the year 2011	$C = 159,5 + 0,775 Y$	4,44

For the calculations, we used the following data provided by Krasstat:

- Y – month cash income of the population per capita, roubles;
- C – month consumption per capita, roubles;
- Consumer Price index, %.

All data is reduced to 2005 prices. We got the following Keynesian functions of consumption for Krasnoyarsk region before and after the crisis (Table 1).

Characteristics of the model quality (at the beginning of 2011) are:

- adjusted $R^2 = 0,992$, means that 99,2 % of the dependent variable fluctuation is explained by the model;
- the regression equation is significant at the level of 5 % according to Fisher statistic;
- standard error of estimate equals 41,42;
- Durbin-Watson statistic equals 2,57, there is no significant autocorrelation of the model residuals.

The calculations reveal, that as before the crisis there was a rise in the marginal propensity to consume, people used to spend most of their income, not to save it. During the period from 2004 to 2008, the value of autonomous expenditures multiplier increased from 3,83 to 5,15. It illustrates the decrease in the stability of the regional economy and the increase in its sensitivity to various shocks. During the crisis, the marginal propensity to consume and the multiplier axed, which reflects the consumers'

lending grip and more careful attitude of the households to spending the reduced income. The restoration after the crisis turned out to be fast enough, the marginal propensity to consume increased and equaled 0,775 as the multiplier reached 4,44 by the beginning of 2011. At the present moment the region needs to take some measures to stabilize the marginal propensity to consume and debar its excessive growth.

Let us compare the derived indicators with the similar All-Russian ones (Table 2), where C is consumption, in billion roubles, and Y is disposable income, in billion roubles.

A considerably higher value of the multiplier in Russia in comparison with the one in Krasnoyarsk region is an indirect sign of higher living standards in the region, than in the whole country. An indirect sign of higher living standards is also a lower value of marginal propensity to consume. The abrupt fall of marginal consuming propensity of the region population reflects the stronger crisis influence on local population than on Russians in average: because of their higher living standards, people in Krasnoyarsk region had something to lose. Correspondingly, higher marginal propensity to save is more typical for the population of Krasnoyarsk region, than for Russians in average (0,345 versus 0,104). About 3500 roubles are saved every month per capita in the region (in prices of 2005), while in Russia it is only 1000 roubles.

The financial and economic crisis switched the structural changes in consumption and saving

Table 2. Keynesian functions of consumption for Russia and the values of autonomous expenditures multiplier.

Period	Functions of consumption	Multiplier
In 2000-2003	$C = 226,0 + 0,764 Y$	4,24
Beginning of 2008	$C = 321,1 + 0,822 Y$	5,62
Beginning of 2010	$C = 656,6 + 0,806 Y$	5,15

Table 3. Structure of monetary expenditures and savings of the Krasnoyarsk region population, %

	2006	2007	2008	2009	2010
Monetary expenditures and savings	100	100	100	100	100
purchase of goods and services	67,3	65,7	67,1	64,2	66,7
compulsory payments and other contributions	13,3	13,3	13,5	14,4	12,4
real estate acquisition	1,8	4,3	3,7	2,1	3,0
growth of financial assets	17,6	16,7	15,7	19,3	17,9

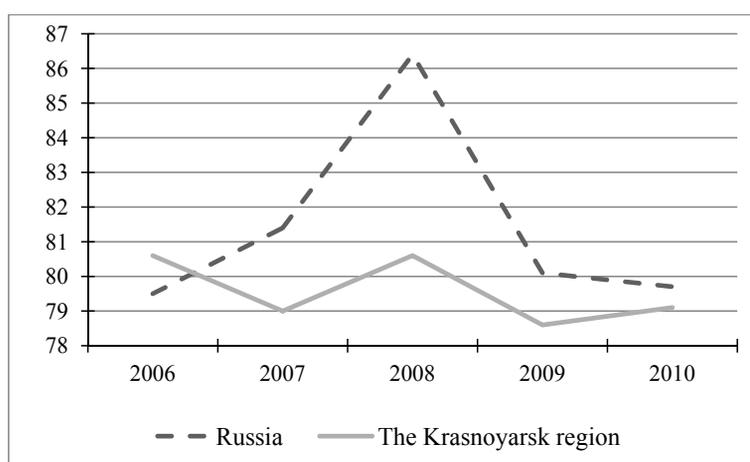


Fig. 3. Share of consumption in cash income of the population of Russia and the Krasnoyarsk region in the years 2006-2010 years, %

of of the Krasnoyarsk region population (Table 3). Right before the crisis the households increased their investments into real estate. However, during the crisis, due to some unfavorable prices conjuncture the population reduced it rapidly and converted their money into financial assets. But the expectations of the households about dynamics of property prices seemed to be

optimistic, because in 2010 the share of expenses on real estate acquisition grew.

In comparison with the population of Russia as a whole, before the crisis people in Krasnoyarsk region were more conservative. The income share of their consumption grew to a lesser extent, contributing to stabilization of the national economy (Fig. 3).

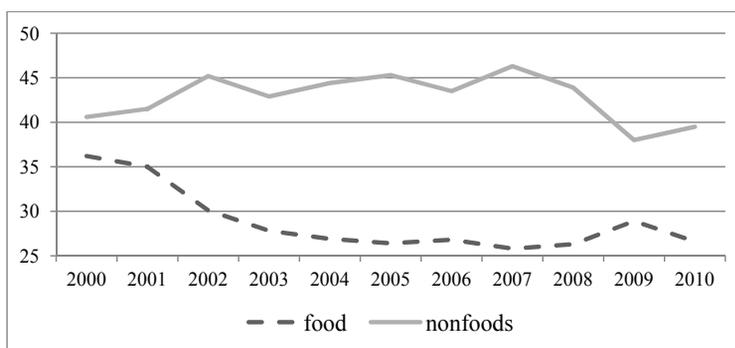


Fig. 4. Dynamics of the shares of food and nonfoods in household consumer expenditures in the Krasnoyarsk region in 2000-2010.

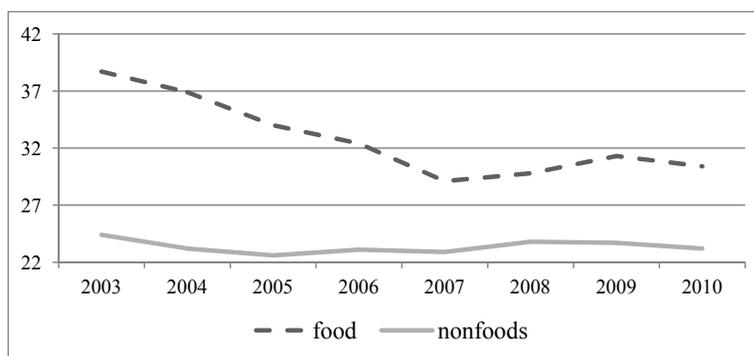


Fig. 5. Dynamics of the shares of food and nonfoods in household consumer expenditures in Russia in 2000-2010.

The structure of household consumer expenditures in Krasnoyarsk region shows that the crisis of the years 2008-2009 became the most unfavorable period for the population during the recent years (Fig. 4). The biggest growth of the share of food expenses and the greatest decrease in the share of nonfoods expenses is typical for the crisis of 2009. It illustrates the decrease in living standards.

The dynamics analysis for similar All-Russian indicators (Fig. 5) illustrates lower living standards of the Russian population in average: the share of food stably exceeds the share of nonfoods. The influence of the crisis is also visible in this Figure, but it is not so dramatic.

Conclusions

Krasnoyarsk region is one of the leaders of Russian economic development, but it is characterized by specialization on export of raw materials. Living standards of the population of the region are higher than the average in the country. At the same time, the financial and economic crisis caused considerably more dramatic structural changes in consumption and saving of the households in the Krasnoyarsk region than in Russia as a whole. Despite this, the economy of the Krasnoyarsk region remains more stable. The bodies of state power should not let the marginal propensity to consume grow excessively and the macroeconomic dynamics become unstable. At the same time effective measures aimed at

diversification and overcoming the specialization on export of raw materials are necessary.

In our opinion, the sphere of consumption is the main component of an economic system, and structural changes in it can considerably influence economic development of a region. Structural changes in the sphere of consumption determine the volume and the structure of aggregated demand, vectoring economic dynamics. Moreover, structural changes in consumption and saving are fundamental factors of the progress of productive forces and relations of production.

The transformation of the Krasnoyarsk region economy led to the development of

new institutions, which changed the economic structure of the region, the proportions of the economic system, the nature of connections and relations. This is when an important question is rising: which structural changes should be considered as positive, and which ones as negative, in what direction it the whole economic system is going as a result of such transformations? On the current stage it is very important for the economy of Krasnoyarsk region to coordinate structural changes aimed at economic growth with adequate social policy, the main goal of which is increasing living standards of the population.

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**Влияние мирового
финансово-экономического кризиса
2008 – 2009 годов
на экономику Красноярского края**

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В статье рассматривается влияние мирового финансово-экономического кризиса на макроэкономическую динамику Красноярского края, структурные сдвиги в потреблении и накоплении домашних хозяйств, выполняется сопоставление с экономикой России в целом. Уровень жизни населения края несколько превышает средний по стране, однако и кризис отразился на социально-экономическом положении жителей края значительно. Несмотря на это, экономика Красноярского края остается в целом более стабильной. Органам государственной власти края необходимо не допускать чрезмерного роста предельной склонности к потреблению и дестабилизации макроэкономической динамики. В то же время необходимы действенные меры, направленные на диверсификацию и преодоление экспортно-сырьевой направленности.

Ключевые слова: экономика Красноярского края, макроэкономическая динамика, мировой финансово-экономический кризис, структурные сдвиги, потребление населения.
