Changes in household saving and borrowing behavior during the economic crisis

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Abstract. In the article the authors use the well-known model of "permanent income" to explain the behavior of Russian households in a situation of economic crisis. The authors challenge the widespread opinion in the Russian economic community that the Russian banking system's recovery from the crisis caused by the coronavirus epidemic will be quite short and intensive. The almost thirty-year history of economic crises in Russia does not give rise to such optimism. The article provides evidence that during the past economic crises, Russians have always chosen the "savings" model of behaviour. The essence of this model is that at the first obvious symptom of the crisis, which is a reduction in current income (less often a loss of employment), households sharply reduce their current consumption. It is noteworthy that the savings behaviour pattern extends beyond the acute phase of the crisis. A high savings rate is maintained for a long time as the value of current household income has recovered. It is assumed that the savings model has become a stable behavior pattern as a result of the long (about 20 years) period of stagnation of the Russian economy at the turn of the 20th-21st centuries.

Before carrying out an analysis of the Russian market of savings and investment, it is useful to get acquainted with the theory. The basic equation on which the theory of savings and investment is based is

\[ S = Y - C, \]  

where \( S \) – household savings, 
\( Y \) – current household income, 
\( C \) – household current consumption.

The thought encoded in this formula seems primitive. It assumes that in the future period a household can transfer only that part of the current income that it has “saved” from consumption.

However, the issues of saving, consumption and investment have been studied by economists for a short time. The famous "General theory of employment, interest and money" by J. M. Keynes can be considered the first fundamental work [7]. This was followed by "National Income: Research Results"
written by S. Kuznets [9] and "Theory of the consumption function" written by M. Friedman. In this work, the hypothesis of permanent income was substantiated [4].

Permanent income is the average income that a household expects to receive in the future. Its value is taken into account when deciding on the level of current consumption. For example, if the current income of a household decreases and it returns to its previous level in the near future, the volume of current consumption will not change, because the amount of permanent income remained unchanged. The amount of savings (S) of this household will decrease in the current period. With the reduced level of income (Y), the family leaves the previous level of consumption (C). This conclusion follows from equation (1).

The permanent income hypothesis has proven to be very fruitful, since it helps to explain even the paradoxical behavior of the population. For example, the permanent income hypothesis can explain why the savings rate declined after the tsunami that devastated Japan in 2011. The Japanese felt that a decline in income caused by the disappearance of many businesses was temporary. Revenues would recover immediately after new factories have been built [5].

In 2007, due to bad weather conditions, heat followed by downpours and floods, European farmers lost their crops. This led to a sharp rise in food prices in the world market. The winners were Russian farmers, whose harvest was not affected. However, Russian farmers did not start spending money. On the contrary, they sharply increased the share of savings from current income [6].

If observers were familiar with the theory of permanent income, they would not be surprised. According to this theory, Russian farmers assumed that after a lean year, Europe will return to normal fertility and the level of prices for agricultural products will shift to average annual values. This means that the level of permanent income will remain unchanged. Consequently, it makes no sense for farmers to increase the current consumption (C), which, with an increased level of current income (Y), will inevitably lead to an increase in the volume of savings (S) in accordance with equation (1).

Nothing prevents us from using the permanent income hypothesis to understand the current crisis caused by the coronavirus infection. Rosstat assessed the degree of impact of the coronavirus pandemic on the Russian economy. According to Rosstat, in the second quarter of 2020, GDP decreased by 8.5% in annual terms. Rosstat data turned out to be more positive in comparison with the version of the Ministry of Economic Development (a drop of 9.6%) and the Central Bank (a drop from 9.5 to 10%). When calculating GDP for the second quarter of this year, Rosstat used the value added method - it summed up all the added value created by Russian enterprises from April to June. This approach is most widespread in the world. At the same time, the required efficiency did not allow us to take into account the performance of small businesses - the assessment concerns only large and medium segments. The only sector of the economy that avoided a fall is the agricultural industry. Its profit increased by 3.7%. The profit of many other industries decreased by 8.5%, in the mining industry - by 10.3%, the retail turnover decreased by 16.6%, the passenger traffic profit decreased by 79%, the public catering profit decreased by 48.9%.

Many expert predictions for the recovery of the Russian economy are random, they are not based on theoretical foundations. A variety of scenarios have been put forward. But what is the probability of their implementation? To answer this question, it is useful to trace the standard response of Russians to economic crises. A lot of materials on this issue have been accumulated. Figure 1 shows the "cardiogram" of the reaction of Russians to the crises in the 21st century.
The most characteristic symptom is a sharp, more than twofold increase in the savings rate in the years following the crisis. Both crises occurred at the end of the calendar year. The 2008 crisis peaked in October and November; the 2014 crisis broke out in mid-December. The conscious reaction of the population to the economic crisis can be fairly postponed to the next year. If Russians believed that the crisis was technical and short-term, they would not have reduced the level of current consumption (C). But in 2009, just as in 2015, the real income (Y) of Russians fell by almost 10%. According to equation (1), this should have led to a decrease in the level of savings (S). But in reality they grew! This means that we have only one hypothesis that allows us to explain the dynamics presented in Figure 1. Russians are not optimistic about initial symptoms of the economic crisis. They do not believe that the crisis is short-term and cannot destroy the family budget. On the contrary, every crisis is considered to be the beginning of hostilities - there is no blitzkrieg! This means that the households revise the value of permanent income and immediately reduce the level of current consumption.

There is no time to scrutinize the nature of the economic psychology of Russians, which has given rise to the panicky perception of macroeconomic difficulties. You can only operate on hypotheses. For example, it can be assumed that the views of Russians are still influenced by memories of a long period of depression in the 1990s. The 1998 crisis was extremely painful - by the end of 1998, the real incomes of Russians fell by 25%. The exit from the 1998 crisis was very quick and impressive. The same can be said for the 2008 crisis. But Figure 1 shows that this success has not had any impact on the stereotypes of the economic behavior of Russians, they still believe that there are no “easy” crises. The 2014 crisis strengthened their convictions.

Using the theoretical tools and empirical data, let us consider the prospects of overcoming the current pandemic crisis. The development of the crisis was fast - the world economic history had not yet seen such a world economy collapse. But is there any hope that the recovery will be fast? Much depends on the economic behavior of households [10].

Let us assume that people are optimistic. They will begin to restore the current consumption volume, believing that permanent income will soon return to the pre-crisis level. An increase in household expenditures will increase the aggregate demand and supply. The forced unemployment rate will decrease and both the full employment rate and the level of GDP will recover. The way out of the crisis will be quick. For the banking sector, residents’ optimism means an increase in loan demand which will be fueled by the expected income growth.

Let us assume that the population is pessimistic about the rate of income recovery. Then they will choose the so-called "savings" model of behavior. John Maynard Keynes called it "financial prudence.
According to Keynes, “a distinctive feature of this model is extreme frugality, stinginess, “reflexive unwillingness to part with money” [7].

It is clear that for the economy in a crisis or depression phase, there is nothing more destructive than this demeanor. While firms are struggling to survive, hoping for a bailout recovery in demand, buyers decide to save their income by keeping current consumption to a minimum. The tragedy of the situation can be exacerbated by a vicious circle of self-fulfilling expectations. Buyers are convinced of their predictions regarding the duration and depth of the crisis. They try to save even larger amounts from their current income. Having achieved the desired cuts in operating expenses, they are pushing the economy into an even deeper pit [6].

According to the results of observation of the behavior of Russians during the previous crises, it is the “savings model” of behavior that will be chosen by the majority of Russian households for the next two years. In this regard, we cannot share the optimism expressed by many members of the banking community. They argue that Russians will return to their previous way of life. Russian households might restore the level of consumption of food or some types of paid services. But as for durable goods, the demand will recover only in several years.

When buying a home or “investment goods”, people take into account two parameters: the level of loan interest rates and the amount of permanent income, that is, the income that people expect to receive in the future. Households assign low values to the permanent income and reduce the level of consumption. People refuse to consume all goods that are not included in the list of vital ones. Households sacrifice new cars, appliances, foreign tourit travels. There is no “deferred demand” which sellers of “durable goods” talk about. There is only time that forces people to reassess the size of permanent income. Until that happens, one should not hope for a recovery of the aggregate demand [3].

There is, however, another way to restore the aggregate demand [1]. Sellers can choose a behavior model that is different from the one they have used from the very beginning of the “market era” in the history of modern Russia. They should abandon the idea of high marginality of transactions and move on to a wholesale price cut. This model has been used by developed countries since 1825. But this path does not coincide with the lifestyle and way of thinking of modern Russian entrepreneurs.

All of the above applies to the banking sector of the Russian economy. Even when the pandemic goes away, the economic consequences, including the collapsed income level of most Russians, will remain.

It is this circumstance, and not the restriction of the mobility of Russians, that led to a drop in the bank loan demand of Russian households. In April 2020, the volume of consumer loans increased by 45% by quantity and by 49% by the total amount of concluded contracts (in comparison with April 2019). Families are unlikely to revise their assessment of permanent income in the coming years, which means that the amount of bank loans will not recover. Russian authorities offered more significant benefits on mortgage lending, but this was not enough to compensate for the worsening expectations of Russians. As a result, the mortgage loan demand has decreased. Therefore, it is incomprehensible why "experts" from the banking community expect a reduction in the volume of lending in annual terms by no more than 10%. In reality, the reduction will be larger.

In fact, the emergence and sustainability of such optimistic forecasts is understandable. The model of relations between the Russian banking sector and Russian households emerged after the 2008 crisis. The days when Russian commercial banks used price competition as a means of market expansion are over. Another strategy proved to be much more advantageous: a bank immediately sets a high interest rate and then starts a differentiated selection of applicants of borrowers. At the same time, banks use a variety of tools to sell the loan.

First, they carefully avoid entering into transactions with persons whose solvency or reputation is doubtful to them. The available information helps them in this. Such information is confidential and therefore a rare boon. Nowadays, one should not be surprised that the cases of selling customer information (trading in "databases") within the banking sector have become more frequent.

Secondly, commercial banks prefer to mask the full effective interest rate on loans from clients. It is impossible for the client to obtain information about the interest rate on the loan before contacting the
bank in person [5]. After the client's request, the commercial bank begins to "evaluate the client", as a result, the actual interest rate becomes twice, or even three times higher than the original interest rate. It should be noted that this strategy of working with a client is widely used in the practice of many Russian firms. The main task is to lure the buyer into the negotiation process by any means. If the transaction costs incurred in the course of the bidding become high enough for the customer, then the probability increases that the buyer will be able to classify such costs as irrecoverable and agree to the terms proposed by the seller.

The thesis that there is no competition between Russian commercial barges may seem like an exaggeration. However, some empirical data and theoretical calculations suggest that this hypothesis may be viable. Speaking about empirical data, we mean, first of all, the indicator of the debt load of Russian households. As of April 1, 2020, this figure reached 20.1% of GDP. This is a very modest indicator by world standards, which, moreover, was reached in the 17th year from the start of the credit boom. Many representatives of the banking sector are trying to explain this surprising figure by the administrative interference of the Bank of Russia. It is difficult to understand why an elementary hypothesis has not been reflected in the literature, according to which the volume of Russian demand for loans is an inverse function of the rate of interest. Few suppose that the law of demand is in full force in the lending market. It is the high interest rate that does not allow the Russian economy to be saturated with loans.

Russian commercial banks could counter these sentiments of fellow citizens with an active policy aimed at lowering the interest rates. This could push Russians to increase their demand for loans. However, the data show that banks did the opposite: they are increasing the total cost of loans from 16.4% to 16.7%. It should be assumed that the process of the Russian economy's recovery from the crisis will last for a longer period than experts predict.

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