CONTRADICTIONS BETWEEN THE USE OF CREDIT RESOURCES AND INVESTMENT NEEDS IN RUSSIAN REPRODUCTION

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Abstract. Nowadays, innovative development becomes a crucial component of socio-economic transformation. However, the Russian lending structure contradicts the interests of innovative development, although it reflects the needs of major segments of the national economy. The main objective of this research is to determine the possible options of banking sector modernization offered by modern technologies allowing to solve the accumulated contradictions between reproductive investment needs and lending practices. Analytical and theoretical results of our study have shown that the banking system does not meet the requirements of expanded reproduction and needs a significant change. The obtained results can be used to develop new technological bases of investment banking in the context of modern social and economic transformation.

Key words: innovation process, banking, reproduction, investment credits, small and medium-sized businesses, blockchain technologies.

1 Introduction

The innovative factors of development are now becoming the crucial component of socio-economic transformation. At the same time, the innovation process has the following trends: growing knowledge intensity, capital transfer to high-tech industries with high added value, creation of high-tech jobs, the change in the structure of production factors, reduction of transaction costs due to the formation of information and communication infrastructure, etc. In addition, information technologies influence the branch structure of national economy so that limited resources and economic costs are redistributed among different sectors and business areas (Abuzyarova M.I. 2011).

2 Methodology

Our analysis is based on the structure of corporate lending by types of economic activity, overdue debt dynamics, weighted average interest rates and the structure of credits turnover, capital dynamics and banking multiplier, showing a low attractiveness of bank lending for financing investment in the real sector.

3 Results

The structure of innovative process is defined by global, national and local transformational shifts. Global transformational shifts are characterized by the influence of postindustrial trends and the emergence of technological leaders - the countries creating the image of global economy. National shifts are presented by macroeconomic diversification of sectoral structure of production at the national level, and local shifts- by the relationship between traditional and innovative factors within the boundaries of productive and institutional structures (Vaskina M.G., Ishchenko-Pamukova O A., Movchan I.V. 2016). These structural changes demonstrate long-term trends in the technological development of existing industries.

It is important to note that all the changes in global economy are due to the fifth technological order, characterized by the presence of software, multimedia, global networks and the dominance of information and biotechnology. As a result, the most developed economies of the world use advances in science and technology to optimize production. The use of innovations gives significant competitive advantages both in the domestic and foreign markets , which allows to further increase the gap in socio-economic indicators between developed and developing countries.

The components of fifth technological order are not clearly visible in the structure of Russian corporate lending (Figure 1).

In 2017 a significant part of loans (about 50%) was issued to the enterprises engaged in economic activities such as: manufacturing (21.7% of the total volume of corporate loans to non-financial organizations); wholesale and retail trade (14.4%); real estate transactions (14.2%). The rest was distributed among enterprises engaged in other types of economic activity. Thus, the structure of lending is contrary to the interests of innovative development, although it reflects the needs of major segments of the national economy.

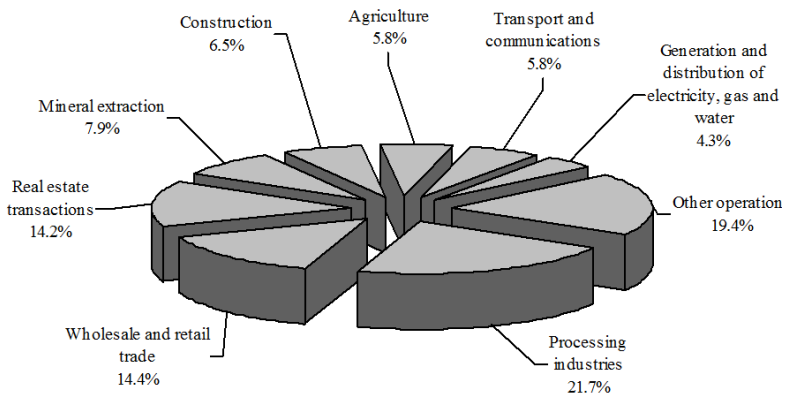

Figure 1: The structure of corporate lending by types of economic activity for a full range of enterprises in 2017 (the chart was compiled by the authors based on the data of: Report on the Development of the Banking Sector and Banking Supervision in 2016. - Moscow: Central Bank of the Russian Federation, 2017. - P.30).

It should be noted that small and medium-sized businesses (SMEs) play a particularly important role in the innovative development of national economy. It is indisputable that the SMEs create additional jobs and favorable conditions for a socio-economic competitive environment, they contribute to the diversification of production, expansion of the consumer sector,

saturation of the market with a variety of goods and services, increased export potential, increased use of local resources, etc. In addition, it is the SMEs that ensure social stability, forming the middle class. And in many respects this is achieved by the fact that the SMEs are the main actor of innovative processes in the economy.

Given a highly-competitive market and limited production resources, one of the few ways of development for Russian SMEs is the implementation of innovations. Here, scale economies are evident: the possible negative effects of innovation are minimized due to the initially small size of enterprises, while the positive ones are maximized due to a relatively small amount of costs. In addition, small and medium-sized businesses ensure that the innovative products and services reach markets quickly due to the absence of long bureaucratic approvals. Besides, the SMEs introduce innovations oriented towards filling market niches, which do not attract large business by their relatively small size.

As a rule, SMEs make risky investments in the development and pilot implementation of R & D results, thus becoming a monopolist for a while, and then either enlarge the scale of production, or sell the rights on the product, or are absorbed. In turn, large enterprises use SMEs for pioneering work, and the government supports this in every possible way. In developed countries, a significant number of innovations are developed by small and medium-sized businesses. So, at least 46 of 58 largest inventions of the XX century belong to single persons, small firms, people who hadn't succeeded in large organizations, inventors from reputable firms (but of a different profile). Generally, in the advanced economies, SMEs provide about half of all innovations, the number of which per unit of costs is often greater than in medium and large enterprises, and their rate of their adoption is a third higher. For example, in the USA small enterprises introduce 25 times more innovations than large companies. The share of intellectual capital in the total capitalization of a US average modern high-tech enterprise reaches 85%. In the EU countries about 50% of GDP and 85% of employees are involved in small and medium-sized enterprises. In Finland, for example, the timber industry owning 0.5% of the world's timber stocks, accounts for 10% of the world timber products export, incl. 25% of quality paper market . In Russia, the situation with the development of small and medium-sized businesses and their innovative activity is radically different from that of developed economies. Thus, the share of SMEs in GDP and employment is at the level of 15%. The total share of enterprises implementing R & D results does not exceed 10%. And the share of enterprises that carry out research and development is even lower - about 1-2% (Stark R.F. 2011).

Nevertheless, in the blind pursuit of profit the banks ignore the objective needs of expanded reproduction, neglecting investment of accumulation funds in the means of production, including innovative ones. Today, banks act only as profitably oriented commercial entities, minimizing their participation in the real economy, providing enterprises and businesses only with the working capital needs and allocating to households only consumer and mortgage credits. For many enterprises in the real economy, especially small and medium-sized enterprises, bank loans are not available. The paradox of this situation is that banks accumulate excess liquidity. Therefore, we have every reason to assert that in practice the Russian banking system absent itself from ensuring the most important thing - the economic growth of the country (Aganbegyan A.G., Yershov M.V. 2013).

There are many reasons for such behavior of Russian commercial banks in the current circumstances. According to experts' opinion, the list of key problems hampering the expansion of credit supply and investment in the real economy includes: the low level of capitalization of commercial banks; structural disparities of the national economy; a high level of credit risks, especially regarding long-term loans; absence of large independent banking structures and wide practice of syndicated lending; a deficit of commercially attractive investment projects based on world practice; the lack of economic incentives to lend to low margin businesses; weakness of normative framework at the federal level; poor law enforcement and low independence of the judiciary; weak intellectual property protection; absence of stable principles of interaction with state institutions; insufficient level of transparency of information on the financial position of enterprises in the real sector; shortage of qualified professionals; weak competition in the credit market; regional problems of the banking system; poor banking infrastructure (Rodnina A.Y. 2015).

At the same time, the tendency of increasing the concentration in the banking sector is quite stable and should also be taken into account (table 1). According to the values of the Herfindahl-Hirschman index, prevalent in international practice, the market concentration by main indicators of the Russian banking sector was at an average level. The index shows the degree of market concentration and takes values from 0 to 1, where 0 corresponds to the minimum concentration, 0-1 to the low concentration level, 0.1 to 0.18 to the average concentration level, 0.18-1 to the high concentration level . In 2016 the asset concentration index increased from 0.107 to 0.111 (average concentration level); the concentration index for credits and loans granted to non-financial resident organizations increased from 0.137 to 0.147 (average concentration level); the capital concentration index increased from 0.114 to 0.137 (average concentration level). And the index of deposits concentration decreased from 0.233 to 0.230, while remaining high enough (high level of concentration).

Table 1 Herfindahl-Hirschman Concentration indices of Russian banking sector*

	2014	2015	2016
Assets	0,108	0,107	0,111
Loans and other placing to non-financial organizations - residents	0,144	0,137	0,147
Deposits of individuals	0,213	0,233	0,230
Capital	0,103	0,114	0,137

* The table was composed by authors based on the data of: Report on the development of banking sector and banking supervision in 2016. - M: Central Bank of the Russian Federation, 2017. – P.17

In general, it should be noted that the share of top 200 credit institutions in the total assets of the banking sector increased in 2016 from 97.2% to 98.0%. Similarly, the share of top five banks in the total assets of the banking sector increased from 54.1 to 55.3%. At the same time, in terms of concentration of assets, the national banking sector is comparable to the banking sectors of several countries of the European Union. In particular, according to the Herfindahl-Hirschman index, Russia is comparable to the indicators from the middle of the rating list of the European Union countries by the share of top five banks in total assets.

A high level of overdue loans is an important factor reducing the investment attractiveness of the SMEs for commercial banks (Figure 2).

Specifically, the level of overdue debt (the share of overdue debt in the total amount of debt) for small and medium-sized businesses increased from 4.3 to 14.9% between April 2009 and January 2018. At the same time, the level of overdue debt of non-financial entities increased from 3.3 to 6.7%. Delta (the spread between the level of SME overdue debt and the level of overdue debt of all non-financial entities) increased from 0.9 to 8.3 %. In January 2018, , the SMEs overdue debt was at 15.0%

for loans in Russian rubles (7.9% for all non-financial entities), and as for loans in foreign currencies, the overdue indebtedness of SMEs was at 14.2%, while for the total of non-financial entities this indicator was at 2.3%. This clearly shows that the small and medium businesses have overdue debts 2 and more times higher than large enterprises, hence the low attractiveness of SMEs for commercial lending, as well as the high level of lending rates, and consequently, the low availability of credit resources for investment purposes.

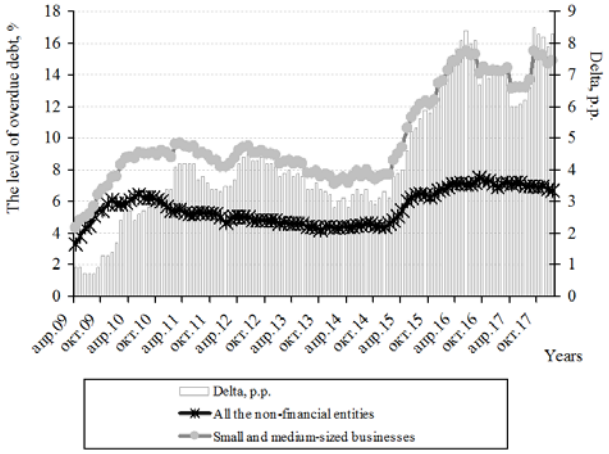

Figure 2: The overdue indebtedness dynamics (the ratio of overdue debt to the total amount of loans and borrowings for the corresponding period, in %) and delta (spread) in p.p. between all the non-financial entities and SME indebtednesses in the period between April 2014 and January 2018 (the chart was made by the authors based on the data of: Information on placed and attracted funds: Statistics (Electronic resource) // Central Bank of the Russian Federation URL: http://www.cbr.ru/statistics/?PrtId=sors (дата обращения: 10.02.2018))

Consequently, small and medium-sized businesses often have a limited access to credit financing especially in crisis conditions. This affects both industrial investment rates (Galazova S.S. 2013) and regional investment process (Shanin S.A. 2012).

However, it should be noted that the interest rate for SME loans is significantly higher than for large enterprises.

Thus, in January 2017 (Table 2), the average interest rate charged on SME loans for up to 1 year was 14.43%, while for all non-financial entities it was at the level of 11.61%. The same is true for medium-term loans (from 1 to 3 years): 13.96% against 11.86%, and for long-term loans (more than 3 years) - 13.28% against 12.99%.

Table 2 Average interest rates (in %), maturity and turnover structure of ruble credits provided to non-financial entities by crediting institutions in 2017 *

Maturity	Up to 1 year	1 - 3 years	More than 3 years
Average interest rates on loans			
For all non-financial entities	11,61	11,86	12,99
For small and medium-sized businesses	14,43	13,96	13,28
Structure of ruble credits turnover			
For all non-financial entities	70,17	13,95	15,88
For small and medium-sized businesses	8,10	2,10	2,14

* the table was made by the authors based on the data of: Interest rates and the structure of loans and deposits by their maturity: Statistics (Electronic resource) // Central Bank of the Russian Federation. URL: https://www.cbr.ru/statistics/?PrtId=int_rat (reference date: 10/02/2018)

Table 2 also shows that most of credits issued to the full range of non-financial entities in January 2017, was short-term loans - 70.17%. Medium-term loans (from 1 to 3 years) accounted for13.95%, and long-term (more than 3 years) loans - for15.88%. The similar pattern of credit distribution was observed in small and medium-sized businesses: 65.64% of loans issued to SMEs were short-term; 17,02% - medium-term; 17.34% is a long-term one.

As a whole, analysis of the structure and dynamics of loans to non-financial organizations suggests that crediting investment projects in the real economy does not seem attractive to banks. A high interest rate makes the investment lending with the loan term of 1 year or more unavailable. The situation is aggravated by structural disparities - preferential lending to the primary sector of the economy with its highest level of profitability, and small amount of credits issued to the manufacturing enterprises with their high share of R & D, but lower profitability (Berezinskaya O.B. 2016). The low inflation, the increased cost of credit for non-financial entities and the banking system inconsistent to the global challenges, result, in fact, in a slowing economic reproduction (Burlachkov V.K. 2016).

The consequences of 2008 crisis in the US mortgage market (which quickly became an economic crisis of a global scale and led to a socio-economic downturn in almost all countries of the world without exception), suggest that the key reason of commercial interests prevailing over public ones is the turbulent process of "financialization" of developed and developing economies (Bulgakova A.V., Denikaeva R.N. 2016; Kiyutsevskaya A., Trunin P. 2016). This is especially noticeable in the outpacing rate of financial transactions growth compared to the growth of GDP and investments in fixed assets (Lisanova I.N. 2017). In the period from the 1980s until the crisis of 2007-2009, the financialization was fueled by a significant rise in savings, transformed into various kinds of securities. The steadily increasing amount of money circulating in national and global financial markets stimulated the investment not only in the non-financial sector, but also in the finance sector itself.

As a result, the financial sector development is far in advance of other sectors of the economy. Thus, in the period between 1990 and 2015 the aggregate nominal value of world financial assets increased from 42 to 294 trillion. USD. At the same time, the ratio of the financial assets to global GDP value increased from 195 to 375%. The ratio of the nominal financial assets value to the volume of investments in fixed assets also increased which generated a special world community's interest in the years of post-crisis recovery. In particular, in the period between 2009 and 2015, the aggregate annual volume of investment in fixed assets in real estimates remained almost unchanged in advanced economies (USA, EU, UK and Japan). But at the same time, the capitalization of stock markets in these countries has almost doubled, and total assets of national central banks increased more than 1.5 times (Paunovich I. 2016). According to the report of the UN trade and development experts, the financial flows gain their momentum and are expected to grow faster than the real economy (World Investment Report 2016).

4 Discussion

The process of financialization of the economy, where the modern banks play a key role, and financial crises are connected in the following way: during periods of prosperity, the economy moves from financial relations ensuring the stability to those that destabilize the system (Minsky H.P. 1992) . In other words, the accumulation of huge financial assets and arrears during the economic recovery leads to an underestimation of risks and provokes the transition from hedged leverage to a speculative mode of loan financing (Dubinin S.K Financialization of economic growth and the Russian national financial system /2017). The downfall in the market value of speculative assets either turns into a financial pyramid, or leads to assets stripping. As a result, financial assets are depreciated and the financial system becomes destabilized. This mechanism correlates quite well to the subprime mortgage crisis and devaluation of housing-related securities in 2007-2009.

In general, the financialization process demonstrates the inconsistency of quasi-public character of commercial banks which is reflected in the divergence of commercial interests of banking organizations and the needs of expanded reproduction. Financial intermediaries' function of providing investment support to production needs is extremely important for expanded reproduction. Therefore, banks should ensure the accumulation of temporarily available funds from some economic agents and provide them to other economic agents, reducing the transactions costs of these economic agents and transforming the amount and life period of capital and associated risks. However, focusing on the pursuit of profit, commercial banks give access to credits exclusively to the enterprises and businesses that bring them fast profit. As a result, the credit channel ceases to provide real investments in the economy, necessary for the expanded reproduction of consumer and industrial goods and services. And the sectors that commonly contribute to the development of the national economy as a whole and serve the interests of social and economic development remain deprived of borrowed resources.

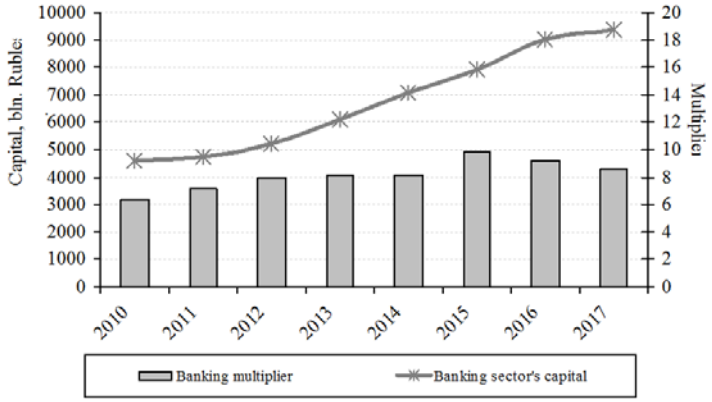

Figure 3: Capital (own funds) and multiplier of banking sector in the period between 2010 and 2017 (the diagram has been calculated by the author based on the data of: Report on the development of the banking sector and banking supervision in 2016. - M: Central Bank of the Russian Federation, 2017. – P.61)

In Russia, the process is exacerbated by a drop in the profitability of banking business, which can be seen in the excess of assets dynamics over the capital dynamics (Figure 3). Thereby, the multiplier of banking capital (financial leverage - the ratio of assets to capital) increased from 6.37 to 8.55 in the period between 2010 and 2017, reaching its maximum in 2015 (9.80). The increased multiplier allowed to level off the reduction of banking sector's profits under conditions of falling profitability. This was also facilitated by the planned increase in the banking capital - from 4.6 trillion. rub. to 9.4 trillion. rub. in the basic market prices (in real terms the growth was 20.6%).

When the banking system does not respond to the investment requirements of expanded reproduction, other resources are brought to the forefront of economic development. In particular, the population's savings, that can be invested under certain conditions (Tatuev A.A., Bakhturova T.V. 2014). However, this is not a solution to the functional problems of the banking sector.

To solve these problems, the banking system should undergo significant changes. The direction of modernization should be determined from the perspectives of formation and needs of new technologies in the managerial, organizational and financial areas. The so-called cryptographic technology of blockchain meets the requirements of all the above directions. Regarding the financial sector, this technology is characterized by a large number of systemic advantages that are formed on the basis of distributed databases without the need to build direct relationships between the parties involved in credit operations. Besides, there is no need of third-party assistance in any transaction.

5 Results

Given these advantages, many financial structures, including the largest Russian banks, have already developed the relevant platforms and are absorbed in the task of corporate blockchain creation. However, in our opinion, the development of blockchain technology should receive the government's support, creating platforms that would integrate the acts of participants from a variety of local structures. Only in this way it will be possible to combine the advantages of the State and the private sector in a single technological chain of investment and financial support for expanded reproduction.

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