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LIFE CYCLES SYNCHRONIZATION OF REAL AND FINANCIAL SECTORS OF ECONOMY

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ABSTRACT

The paper aims to justify the need to take into account the phases of the life cycle of the real and financial sectors when assessing the prospects for their interaction and development of offerings to improve the effectiveness of such cooperation in the context of economic re-industrialization. The authors' position is based on the results of the analysis of the life cycle of the economic sectors carried out in the article, taking into account the indicators of the level of economic development that goes through four stages (generation, growth, maturity and decline) and changes in the economic conjuncture of the market. Based on a detailed analysis of the dynamics and rates of change in 29 indicators, a theoretical model of the life cycle of the sectors of the Russian economy has been derived. Using the synchronization method, the dependence of the phases of the life cycle of the real and financial sectors of the economy on the parameters of the development of the economic sectors was carried out, the periods of their greatest genetic difference were determined. The analysis of the comparability of the life cycle in the context of the real and financial sectors of the economy has shown that the financial sector has virtually no factors of interaction with real sector. During the periods of drastic market alterations, the contradictions in sectoral interaction are exacerbated, as in the financial sector of the economy there are behavioral business models that do not take into account the needs of business entities in investment resources in the context of implementing the policy of re-industrialization.

INTRODUCTION

The development of the national economy supposes an additional study of the issues of interaction between the real sector of the economy and the banking system, there has arisen a need for comprehending new phenomena and processes occurring in the economy, developing an adequate model for interaction between the real and banking sectors of the economy.

Owing to the credits, obtained from tending agencies, only 8% of the fixed investments are financed in the Russian Federation [1]. Credits to the real sector of the economy extended by the banking sector make up 54,4% of GDP, which is quite a small amount compared to this indicator in other developing countries [2]. There is an insignificant share of assets of non-credit financial organizations under the dominance of the banking system, which cannot provide a sufficient level of domestic lending [3].

For completeness of the conducted research, in our opinion, it is necessary to reveal the current stages of the life cycle of the sectors under consideration. To do it, D.V. Chernov [4] divides the phase of growth into several components: accelerated growth, growth, formation. The introduction of intermediate phases is very justified, since, for example, most of the branches of the Russian Federation are reflected in the cycle of formation, which presupposes the slow formation of an industry that is far from the stage of spring but not characterized by its rise.

According to the study [4], there was a gap in the life cycles of the real and financial sectors as early as 2012. The financial sector was in a phase of growth. The real sector, represented by such industries as light, coal, chemical and petrochemical, construction, transport, is marked during the formation phase, while the agro-industrial complex, the engineering industry of construction materials, are marked in the phase of formation close to the origin. The authors understand the phase of formation as the formation of a behavioral business model that, with effective interaction, can ensure the growth of an industrial sector. Accordingly, the financial sector has already developed behavioral business models that determine their effective performance, while the real sector is at the stage of their formation. It is logical to assume that the tendency of discontinuity of life cycles only increases with time, creating obstacles for effective management of interaction for the purposes of reindustrialization. At the same time, the growth rates are also different, which only increases the created sectoral gap [4].

When considering the life cycle of business entities in the real and financial sectors of the economy, there is a fairly significant variance between the stages that largely determine the approaches to managing their interaction. There is a coincidence of stages during periods of growth and stability in economic development. During economic downturn and rapid market changes the real sector is experiencing a downturn and, unlike the financial sector, has a long recovery period. The main difference in the development of the sectors of economy being researched is the pace with which they go through the stages of the life cycle: the rates of the real sector are several times lower than the rates of the financial one. In this case, there is no interdependence between these rates, the financial sector is developing regardless of the real and the increase in the rate of the first one is reflected only in a slight increase in the rate of the second.

A particular feature of the financial sector is the high rate of development, survival in a crisis and changing economic conditions, relative stability due to support measures from the Central Bank, high institutional growth rate, possession of large volumes of investment resources [5, 6].

KEY WORDS

interaction of the banking and real sectors of the economy, life cycle, re-industrialization. Russia.

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METHODS

The construction of the life cycle of the sectors of economy in the paper is carried out in accordance with the analogy of the Porter's model [7], taking into account the indicators of the level of economic development that passes through four stages (generation, growth, maturity and decline) and changes of the economic conjuncture of the market.

When analyzing the phases of the life cycles of the real and financial sectors of the economy, the fact that the lack of long-term funding is also determined by the low degree of influence of the instruments of monetary policy of the Central Bank of Russia on interaction in the chains "Central Bank-Bank-Real Economy" [8, 9, 10].

Using the synchronization method, the dependence of the phases of the life cycle of the real and financial sectors of the economy on the parameters of development of the economic sectors was carried out. To do this, D.V. Chernov in his study [4] applies the method of expert evaluation of Russian economic sectors, which is based on 18 components, that reflect the degree of their development. Some of the components are calculated for a ten-year period (revenue growth rate, profitability of the industry), the rest are based on market conditions for the period from 2008 to 2012. Based on the results of each industry, a common score was put down for all the parameters studied, with the help of which they were ranked in descending order. Depending on the rank, the stage of the life cycle of the industry was determined. These data were processed and grouped in order to study the trends in the sectors of the economy based on the indicators included in their industries.

RESULTS

In order to derive the life-cycle curves, we have analyzed 29 key indicators [11] that characterize their activities for the period from 2006 to 2015 (Appendix 1). On the basis of a detailed study of the dynamics and rates of change in 29 indicators, a theoretical model of the life cycle of the sectors of the Russian economy has been drawn [Fig. 1].

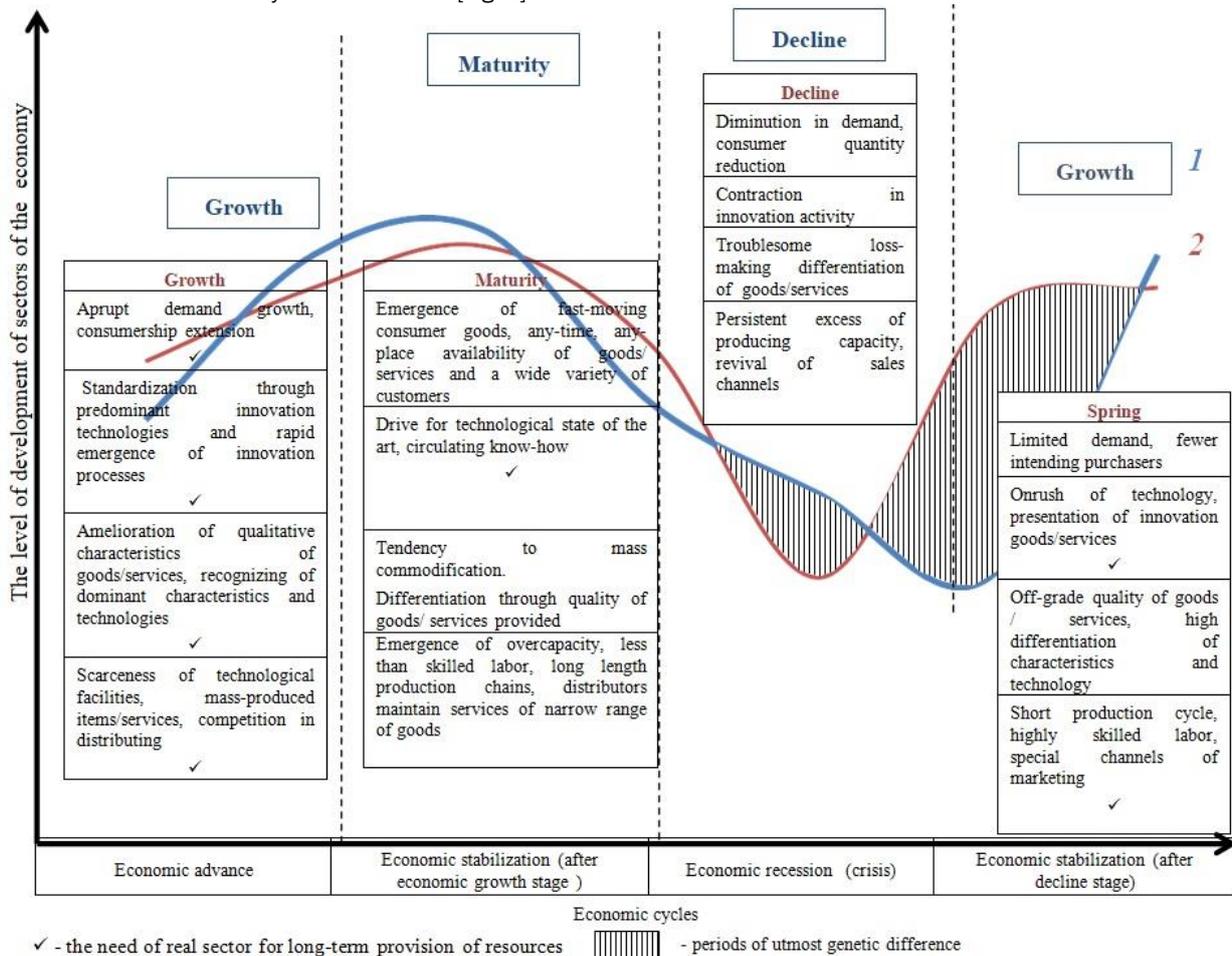


Fig. 1: Synchronization of the Life Cycles of the Real and Financial Sectors of the Economy in the Context of Reindustrialization: 1 – financial sector, 2 - real sector, respectively.

The model of the dependence of the phases of the life cycle of the real and financial sectors of the economy on the parameters of the development of the sectors of the economy comprehended the following important parameters for managing the interaction of economic entities, such as growth in revenue, investment into fixed assets, profitability, competitive posture in the industry, the level of innovations, international expansion, import displacement, the share of the national market. Correlation coefficients (K) are determined based on the results of the modelling, the values of which vary from (-1) to 1. The level of dependence of phases of the life cycle of sectors on the selected parameters is determined by comparing the coefficients of correlation: $K > 0,6$ - the level of the dependence is high; $K < 0,6$ - the level of the dependence is low. If the level of sector coefficients is the same, the indicator belongs to the category of harmonious interaction; the level of coefficients does not coincide - to the category of disharmonious interaction.

To define the factors of breakthrough interaction, the level of interdependence of the above indicators was assessed. The instruments for the breakthrough interaction between the financial and real sectors of the Russian economy are the determining factors for the coordinated and unbalanced development of the economic sectors, the management of which gives the ability to synchronize and compare the cycles of the real and financial sectors of the country. They potentially comprise: the volume of investments into fixed assets, the rate of revenue growth, the level of industry innovation, the share of the national market, resistibility to the crisis [Table 1].

Table 1: The analysis of factors of breakthrough in interaction between the financial and real sectors of economy

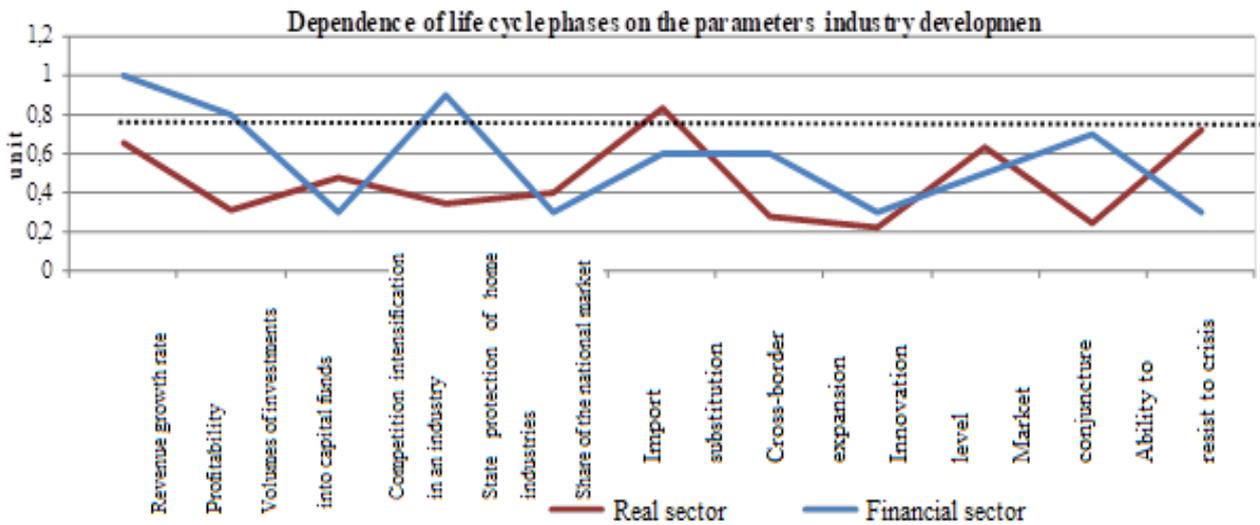
	Quantity of dependent factors	Pace of revenue growth	Earning power	Investment volumes into capital funds	Competition tension in industry	State protection of home industries	Occupation of national market	Import substitution industrialization	Cross-border expansion	Capitalization on all market opportunities	Innovation level	Market conjuncture	Ability to resist crisis
Revenue growth rate	4		0,8	0,7	-0,1	0,0	0,5	0,4	0,4	0,6	0,2	-0,3	0,5
Profitability	3	0,8		0,4	-0,1	-0,2	0,4	0,4	0,5	0,4	-0,1	-0,5	0,1
Amount of investment into basic capital fund	4	0,7	0,4		-0,2	-0,3	0,4	0,6	0,5	0,3	0,6	-0,3	0,5
Competition intensification in an industry	1	-0,1	-0,1	-0,2		0,7	0,5	-0,3	-0,4	0,3	0,2	0,4	0,1
State protection of home industries	1	0,0	-0,2	-0,3	0,7		0,3	-0,3	-0,3	0,5	0,2	0,5	0,2
Occupation of national market	4	0,5	0,4	0,4	0,5	0,3		0,3	0,2	0,8	0,6	0,3	0,7
Import substitution industrialization	2	0,4	0,4	0,6	-0,3	-0,3	0,3		0,9	0,3	0,3	-0,4	0,2
Cross-border expansion	2	0,4	0,5	0,5	-0,4	-0,3	0,2	0,9		0,3	0,1	-0,5	0,1
Capitalization on all market opportunities	4	0,6	0,4	0,3	0,3	0,5	0,8	0,3	0,3		0,5	0,3	0,7
Innovation level	4	0,2	-0,1	0,6	0,2	0,2	0,6	0,3	0,1	0,5		0,3	0,6
Market conjuncture	1	-0,3	-0,5	-0,3	0,4	0,5	0,3	-0,4	-0,5	0,3	0,3		0,4
Ability to resist to crisis	4	0,5	0,1	0,5	0,1	0,2	0,7	0,2	0,1	0,7	0,6	0,4	

One Aggregation of the Assessment of Factors of Sectoral Interaction in the Context of Reindustrialization on the Basis of Phases of the Life Cycle of Economic Entities is Presented in the Form of [Fig. 2].

Table 2: Phases of the life cycle of economic entities

Phases of development of the economic life cycles				
Spring	Real sector			Financial sector
	Formation		Growth	Growth phase
Agroindustrial complex Mechanical engineering	Chemical and petrochemical industry Light industry Coal-mining industry Building Transport	Mining operations (remaining types) Manufacturing industries(remaining types) Pharmaceutical industry Electric-power industry	Food industry Home food industry	Banks and investment companies

Fig. 2: Assessment of the factors of sectoral interaction in the context of reindustrialization based on the



Phases of the Life Cycle of Economic Entities.

The analysis of comparability of the life cycle in the context of the real and financial sectors of the economy has shown that the financial sector has virtually no factors of interaction with the real sector. During the periods of abrupt market changes, the contradictions of sectoral interaction are exacerbated [12], as in the financial sector of the economy there are behavioral business models that do not take into account the needs of business entities in investment resources in the context of the re-industrialization policy. To solve this problem, in our opinion, it is necessary to manage the interaction of the sectors taking into account the behavioral business models of the financial sector of organizations, which will create prerequisites for convergence of life cycles and elimination of existing contradictions.

SUMMARY

The maximum level of dependence of the phases of the life cycle of the sectors of the Russian economy in terms of reindustrialization is observed in relation to the following factors by sectoral interaction in order of decreasing importance: revenue growth rate, industry innovation level, that is, the improvement of these factors leads to resolving contradictions and increasing in the pace of transition of the sector to the next stage of their life cycle. The factors of sectoral interaction that most closely reflect their discrepancy are: profitability, competitive tension in the industry, import substitution, market opportunities and resistibility to crisis.

CONCLUSIONS

- The analysis of synchronization of the phases of life cycles of the real and financial sectors of the economy is appropriate when determining the requirements of the real sector of the economy in domestic long-term financial security. Shortage of long-term funding leads to the fact that Russian companies have to rely on financial resources such as undistributed profits of organizations, state and municipal budgets, as well as foreign borrowings, availability has significantly decreased, with investment financing.

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- The synchronization of the phases of life cycle of the real and financial sectors of the economy depends on various parameters of economic development. The interaction factors most reflecting the mismatch of the sectors are: profitability, competitive tension in industry, import substitution, market conditions and resistibility to crisis.

- In terms of reindustrialization, resolving the contradictions between the development of sectors is facilitated by the improvement of such indicators as the rate of revenue growth, the level of industry innovation, and the share of the national market. In our opinion, in the current economic and political trends, the concentration of efforts to improve the effectiveness of interaction on these factors has a great potential, especially in the context of the reindustrialization of the Russian economy.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None

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