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Model for assessing the financial potential of the region

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Abstract. The paper proposes an approach to the assessment of the financial potential of a region of the Russian Federation on the basis of an economic model including system-processing approach. The article examines the role of regional finance in modern conditions as an important tool to influence the process of maintaining economic growth. The financial capacity may be a fundamental tool in the management of social and economic development of regions, is an indicator of the actual state for the purpose of monitoring and make effective management decisions. The result of the study is to determine the most effective model of assessment of the financial potential of a region in order to ensure sustainable economic development. The article is devoted to the development of a model for assessing the financial potential of the region and the study of its elements. It is proposed to revise the elements that make up the financial potential. The author's interpretation of the conceptual bases of the study presupposes a significant expansion of the boundaries of the financial potential, which determines the systemic and complex research approaches. The authors identified the subjects of the economy that affect the formation and regulation of financial capacity.

1 Introduction

The problem of studying the financial potential of the region is becoming more urgent due to a significant increase in attention to the issues of financial self-sufficiency in the region. The sustainable social and economic development of the Russian Federation includes the creation of an efficient regional economy based on the formation of modern infrastructure and the development of the social sphere, and the elimination of disproportions in the social and economic development of the subjects of the Russian Federation. The implementation of these activities depends on the availability and the possibility of creating financial resources. In the conditions of regionalization of the economy, the need to fulfill tasks to increase financial self-sufficiency, the task of forming and using financial resources of the region and evaluating its potential becomes urgent. This will increase the effectiveness of the adoption of critical management decisions and the construction of a financial mechanism at the regional level.

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The purpose of the work is to develop a model for assessing the financial potential of the region and to explore elements of financial capacity. It can be argued that the basis for regional finance is the financial potential. The development of a model for its assessment will allow us to compare the financial possibilities of different regions, fully assess the effectiveness of regional finance, comprehensively judge the financial security of strategic development tasks, carry out systemic changes in the economy, identify the financial self-sufficiency of the region, and develop economic, financial, and budgetary policies.

The review of author's positions allowed to form four approaches to the essence of financial potential: resource, resultant, resource-target and process-resource. The research conducted by the authors on this issue within the framework of the resource approach treats the financial potential as the amount of financial resources that varies over time [1-2]. A productive approach in determining the financial potential is based on obtaining potentially earning potentials. For example, E.V. Borovikova defines financial potential as a complex indicator of the effectiveness of fiscal policy [3]. The authors who adhere to the resource-targeted approach in determining the financial potential proceed from the targeted use of resources: for socio-economic development of the region or territories, ensuring the reproductive process of individual economic entities. Economists who represent the process-resource approach consider the process of forming financial resources as the main element of the financial potential. So, Isaeva E.A. characterizes the formation and regulation of financial capacity as a process of socio-economic development and development of the financial system [4].

Thus, all researchers recognize the financial resources and the resource approach as the key moment in determining the notion of «financial potential». In the review of the positions of the authors who considered the concept of the financial potential of the region, there is no common opinion about what can be called financial potential, and there is also no consensus on the method of its evaluation. Most authors emphasize only its resource nature, ignoring the process component. Others see in the concept of financial potential only the conditions and possibilities of the financial system. None of the authors do not take into account the specifics of the financial system of the region. This omission is quite significant, since the financial potential of the region should be viewed from the point of view of a systemic approach.

2 Materials and methods

From the point of view of the authors of the study, it is expedient to divide the financial potential into constituent elements: the resource financial potential and the process financial potential as interacting subsystems. This will allow to more accurately reveal the proportions of the distribution of financial potential, without a clear delineation of which the decisions made will be deprived of efficiency.

Under the resource financial potential, it is necessary to understand the aggregate of all financial resources, resources, reserves that can be mobilized and used to achieve any result, a goal.

Under the process financial potential of the region, it is necessary to understand those conditions of the financial environment and processes that ensure the maximum possible effectiveness of the financial system of the region.

Both types of potential interact with each other, thereby reflecting the existing processes taking place in the region. Resource financial potential forms a resource base, which is under the control of a subject of the financial system. The effectiveness and the possibility of using the resource financial potential reflects the process financial potential. As a result of the interaction of the potentials of the financial system, the result (effect or effectiveness) of its use is formed.

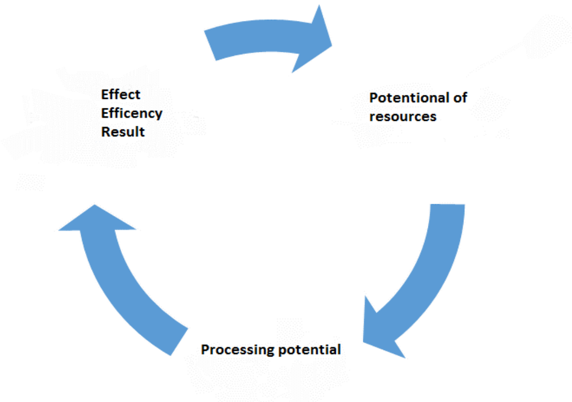

Fig. 1. Cycle of the potentials interaction.

Increased financial resource potential can be expressed in the form of rising living standards, growth of GRP, increase production, etc. Resources financial potential is expressed as a combination of financial resources, reserves and sources of funding that can be used to achieve the results, goals and objectives [5]. The banking system is an important element in the financial and economic environment of the region, since the resources of banks, intended for investment, they increase the financial capacity of the subjects of the financial system for the activities in the region. Financial resource potential of the region will increase by the amount of the money multiplier and the money supply, which comes in its disposition of the appeal. So the importance of resource financial potential of commercial banks is quite obvious.

3 Results

The system of financial resource potential of the region, from the point of view of the authors, includes the resource financial potential of banks and the resource financial potential of local governments. The resource financial potential of the banking system can be represented as the amount of funds available to the bank to carry out its activities. These funds consist primarily of financial assets of the bank which include own funds and borrowed from the central bank, deposits of legal entities, deposits of individuals. The system of public administration at the regional levels is important for social and economic development. State structures are an integral part of the financial system of the region. Finance at the level of local government also has a resource nature [6].

The resource financial potential of municipal authorities in terms of generalized composite elements and the resource potential of banks form a system of resource financial potential of the region.

Process financial potential of the region is those conditions of the financial environment and processes that ensure the maximum possible performance of the system [7].

The quantitative dependence of financial potential on financial infrastructure presupposes the need to identify the institutional content of financial capacity by links in the financial system. The system approach of research of financial potential, based on the links of the financial system, will reveal the unity of the system, its manageability [8]. Among the subjects that affect the financial potential of the region, it is necessary to include the potential of a number of participants in the financial system of the region. They form the financial system of the region. So, speaking of the financial potential, the potential of all elements of the financial system in the aggregate is implied. All elements of the financial system directly or indirectly function among themselves, thereby affecting the performance of each component element [9].

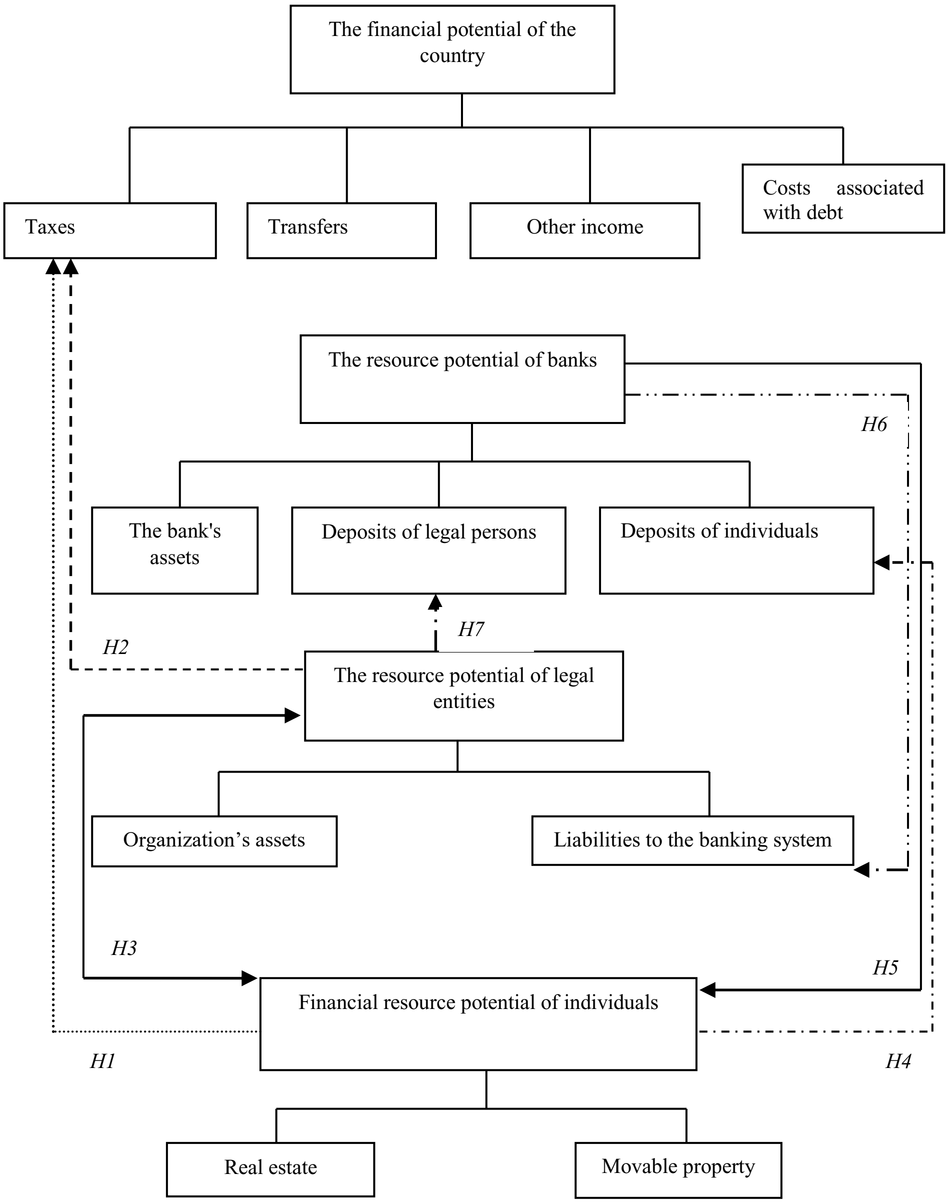

Fig. 2. The resource's financial potential of the region (compiled by the author).

H1 and H2 - these relationships are reflected in the fact that the resources, acting as a resource financial capacity of businesses and individuals are subject to taxation. The greater the investment in fixed assets of legal entities and more personal property, the better it is reflected in the financial potential of the region.

H3 - the interaction of financial resource capacities of individuals and entities.

H4 and H7 - deposits of individuals and legal entities to bank deposits and deposits. These transactions increased the financial resource potential of the banks. By means of such operations increases the possibility of banks in lending that creates the money supply in the market, the volume of money supply in the market.

H5 and H6 - is the financial flows that increase the financial resource potential of businesses and individuals by means of lending by commercial banks

The financial resource potential of the region is expressed in the amount of money that is in circulation in the region and is used by the financial system for effective social and economic development [10]. The entire amount of money is expressed by an indicator, which we will designate as a monetary base [11]. Accordingly, the monetary base is the sum total of all funds. Can be determined by the following formula:

$$H = C + R \tag{1}$$

H – Monetary base;

C – Cash;

R - Check (perpetual) deposits and cash on accounts of legal entities and the money in the accounts of individuals.

Since during the life of the region as an important element of state policy is fiscal policy, the resource is exposed to H redistribution. According to the balance of payments, the state withdraws from circulation a certain money supply and further by reallocating money back into circulation. The level of the tax burden on the monetary base is determined by the measure of the share of tax revenues in total monetary base in the region. (according to the formula):

$$STMB = \frac{T}{H} \tag{2}$$

STMB - Share of taxes in the monetary base;

T - Aggregate amount of taxes and contributions received in the budget.

The indicator shows the process of return of the funds rate stands in the formula:

$$Sig = \frac{I + G}{H} \tag{3}$$

Sig - Share of the amount of money redistributed by local authorities on their own, and social needs;

I - Financial injections from the budget of the people, expressed in the form of social security contributions, maintenance of municipal property, etc;

G - Government procurements & government orders

Comparison STMB and Sig is expressed as a coefficient of redistribution of the monetary base and shown in the following formula:

$$CRMB = \frac{STMB}{Sig} \tag{4}$$

The standard value of this ratio can be greater than 1 or less than 1. It depends on what stage of development the region is experiencing. Obviously, this indicator may reflect the fact that the value is less than one accompanied by a budget deficit in the region without transfers and subsidies at the federal level. CRMB reflects the process financial potential of a local government that is acceptable to a situation of economic growth in the period, when the figure was calculated. Criteria normative values of CRMB and Kdr are shown in table below:

Table 1. Criteria coefficients (compiled by the author).

Economic growth	**CRMB**	**Kdr**
Decrease	Less than 1	0,95 – 0,99
Stagnation	Less than 1	0,95 – 0,99
Increase	Less than 1	1 – 1,13

It should be noted that in step lift coefficient value is more than 1 must be periods of overheating as criteria mitigation overproduction. In addition, to determine the boundaries of the ratio Kdr should be guided by the existing legislation. According to Article 136 of the RF Budget Code the budget deficit in the region should not be more than 5%, taking into account the requirements of the legislative boundaries of the criteria for ratio Kdr times of recession and stagnation should be in the range of 0.95 to 0.99. The upper limit is determined based on the fact that in times of economic recession budget deficit may be useful in the circumstances forming the value of the index is greater than 1 CRMB may occur consequences detrimental to the economy of the region [12].

If the figure in times of recession is greater than 1 in the financial system in the region can be observed the following effects due to the reduction of money in circulation:

The decline in production;

Reduced imports;

The slowdown in GRP;

The increase in the number of unemployed;

The decline of demand;

Reduce of purchasing power of the national currency, etc [13,14].

The relationship of production volumes with the deficit or surplus budget in times of economic recession and stagnation is shown on figure below:

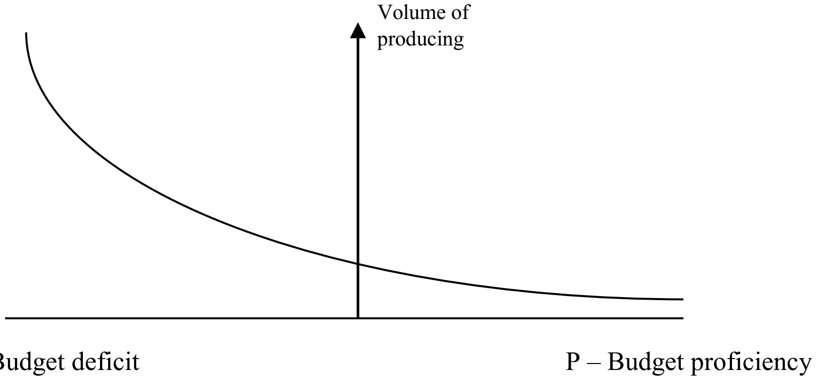

Fig.4. The relationship of production and the balance of payments (compiled by the author).

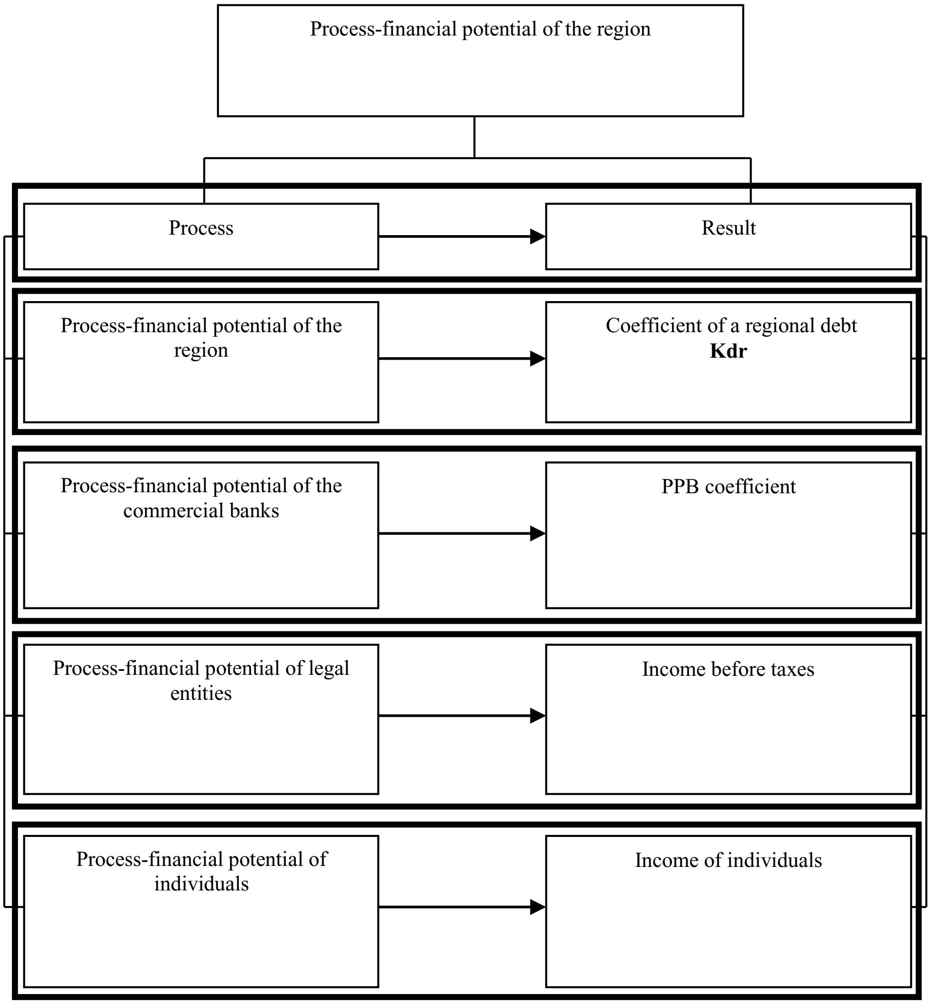

Fig. 3. The elements of the process-financial potential (compiled by the author).

Process-financial potential of the region is reflected in the processes and conditions that occur at this time in the region. To assess the regional debt ratio **Kdr**, defined by us, as the ratio of regional budget revenues to its expenditures, it is necessary to understand the state of the economy in this period. In the period of economic growth, its value can be more than one. During the crisis, the value of the coefficient should be less than one.

Indicators that can reflect the degree of attractiveness of resource financial potential of commercial banks is the indicator of the process financial potential of commercial banks in the region, which is defined by the formula:

$$ppb = \frac{IRR_b}{\%_{bnkl}} \tag{5}$$

ppb – process financial potential of the commercial banks of regions;
IRR_b – average income standard of investment projects of a region;
$\%_{bnk}l$ – average percentage on bank loans of a region.

The essence of this indicator lies in the fact that bank loans as a source of external investment cannot be attractive. If the value of the indicator is less than one, investment activities in the region will be implemented with problems, or at the expense of the population of the region. However, for certain values of the indicator CRMB, activity in the region may be minimized, or be implemented at a slow pace, which will affect the reduction of the gross regional product and the decline in business activity. Thus, the efficiency of the financial resource potential of the region will be very low.

The measure of banks potential in the can be represented as follows:

$$(RPCB = BF + DLE + DI + MR) * b \tag{6}$$

RPCB – Resource potential of the commercial banks;
BF – Bank's own funds;
DLE – Deposits of legal entities;
DI – Deposits of individuals;
MR – Minimal bank's reserve;
b – Bank multiplier.

Since the bank's resource potential is expressed as an aggregate of means by which the bank can carry out its activities and the money multiplier, as an element, multiply the resource capabilities of the bank. Thus, as a process financial capacity of local governments, as well as a process of financial potential of the commercial banks, have a significant impact on the financial situation in the region. The interaction of these two components is a fundamental process in the formation of the financial potential of the region.

The nature of the situation and the conditions that create these elements in the regional economy can be displayed in the matrix of the process of the financial potential of the region [15, 16], given in the table below:

Table 2. Matrix of the process of the financial potential of the region (compiled by the author).

		The coefficient of financial potential of the banking process	
		>1	<1
Coefficient of redistribution of the monetary base	>1		
	<1		

Based on the type of economic development of the region (decline, rise, stagnation, depression), the values of the coefficients in the matrix should be different. For example, during periods of economic decline, the coefficient of redistribution of the monetary base should be less than one, and the coefficient of the process bank capacity should be greater than one. This is due to the conditions that must occur in the financial and economic environment of the region, with a view to normalizing the situation. It is necessary to remember about the system character of these indicators. For a more accurate interpretation it is necessary to take into account the state of other elements of the financial potential of the region.

4 Discussion

Based on the type of economic development of the region (recession, recovery, stagnation, overheating, and depression) coefficients in the matrix should be different. For example, during periods of economic downturn coefficient redistribution monetary base should be less than unity, and the coefficient of process banking financial capacity must be large. This is explained by the circumstances that must occur in the financial and economic situation of the region, in order to normalize the situation. So financial potential can be a fundamental tool in managing the development of the region, which is an indicator of the actual state for monitoring and making effective management decisions, and a general indicator of the set of factors [17, 18-22].

Thus, the assessment of the financial potential will significantly improve the efficiency and effectiveness of the current regional financial policy, and address the challenges of the region's development strategy. At the federal level, first of all, the issues of budgetary equalization will be settled. Assessment of the financial potential of the region will serve as a basis for the development of a strategy for the development of the regions of the Russian Federation, which is quite relevant in the current circumstances [19, 20]. As part of the management of financial potential, its assessment will determine the opportunities and trends in the development of the regional economy.

5 Conclusion

The study examined and summarized the theoretical principles and practical aspects of the definition of the financial potential of the Russian Federation and developed recommendations to improve the functioning of the region by assessing the financial capacity aimed at the sustainable development of the national economy. They have been identified and substantiated the main constituent elements of the financial potential of the region, which is expressed. The study was described as the financial resource potential and the financial potential of a process interact. The author's model allows assess the financial potential of the region. It has been identified ways to calculate the financial capacity of the various elements proposed criteria for the optimal values. Also, it was suggested that the optimal values of process capacity in the different periods of economic growth may be completely opposite values.

The activities of regional authorities should be aimed at finding, attracting, creating financial potential, the amount of which would be sufficient to achieve the strategic objectives of the socio-economic development of the region. Correctly formed proportions of financial potential by subjects will allow to build the most effective financial system of the region.

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