

Need for convergence of interests of the regional economic system and economic entities in the process of neo-industrialization

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Abstract — The article is devoted to the study of theoretical and practical aspects of the need for convergence of economic interests of the regional economic system and economic entities in the process of neo-industrialization. The main characteristics and parameters of the neo-industrialization are summarized; features of neo-industrialization in terms of total digitization are specified. The reasons for the need for convergence of economic interests of the region and economic entities in the conditions of neo-industrialization are revealed. The special case of convergence of interests is defined – "the principle of the general final way" which can be accepted as a basis of convergence of interests. The terms of "economic interest", "regional economic interest", economic interest of the economic entity in the territory of presence are considered. It is revealed that in modern conditions there is a complication and tightening of administration of economic interests which generates new contradictions, aggravating the "eternal" conflict of personal and public interests. It is argued that the most effective way of realization and convergence of economic interests can only be their clear coordination (one of the functional areas of management), which involves the measurement and evaluation of economic interests. The regional economic system is an assembly of economic entities which implement multidirectional interests. The economic interest of the regional economic system covers all phases of reproduction (production, distribution, exchange, consumption). The method of assessing the level of consistency of economic interests of the region and economic entities is formed and the tools of measurement of indicators and evaluation are defined. An aggregated list of indicators of consistency of economic interests, which is based on the principle of "balance", is proposed. Requirements to indicators of social and economic interests are stated. The necessity of inclusion of indicators of neo-industrialization in the list of indicators is considered. In conclusion, the findings about the applicability and further direction of research and improvement of methods and methodological support of the level of assessment of economic interests are given.

Keywords — *convergence, economic interest, regional economic interest, level of interest consistency, neo-industrialization*

I. INTRODUCTION

The goal of research is to substantiate the need for convergence of interests of economic entities of the regional economic system in the process of neo-industrialization and the formation of methodological support for measuring the level of consistency of economic interests.

The object of research is an assembly of subjects of economic activity of the regional economic system. **The subject** of this research is the processes associated with the interpenetration of economic interests of various industries and economic entities of the regional economic system.

Today, the new industrialization (neo-industrialization) is a decisive factor in the economic development of Russia. It is the new industrialization that mobilizes national resources for the development of advanced production infrastructure that is a historical necessity for industries, regions and the country as a whole. It particularly determines the strategic priorities of the national economy. Features of neo-industrialization (need for industrial development, total digitalization, innovation of work processes, production integration, sustainability) define the problem of requiring the convergence of interests of economic entities of the regional economy.

The economic interest is the main category used to refer to the real causes and root motives of economic activity and economic behavior of people that are behind the immediate intentions – motives, thoughts, ideas [1]. The interest is a form of manifestation of need, i.e. it is a conscious desire of the subject to its satisfaction. Economic interest characterizes the driving forces of formation and development of economic entities. The existence of national, state, regional, sectoral and

interests of economic entities indicates that economic interests are realized at various levels [2]. The dominance of national interests over the rest interests is obvious, since they include: strengthening the defense of the country, ensuring its independence, the development of democratic institutions, improving the quality of life, strengthening public health, preservation and development of culture, improving the competitiveness of the national economy, etc.

Economic interests of different levels and directions of their implementation may come into certain contradictions. For example, the desire of economic entities to maximize profits is at odds with the wish of consumers when purchasing the goods they need to minimize their costs. Sometimes the need for workers to be protected from layoffs and certain social guarantees do not coincide with the desire of employers to have an opportunity to come flexibly to the formation of the workforce. The discrepancy of economic interests requires their mutual convergence, which is possible both by finding a compromise between their carriers, and with the help of external (primarily state) regulation [2].

The effective functioning of the region's economy is possible only with the sustainable development of its constituent industries. The development of industries, in turn, depends on the efficiency of the functioning of economic entities located in the region, while the key factor determining their activities are economic interests. At the same time, the efficiency of the industry as a whole is closely related to the level of development of the region.

To estimate how the regional economic interest is realized it is possible on the basis of the indicators characterizing efficiency of use of system of resources of the region - natural, production, labor, financial, economic and others.

Since the beginning of the 21st century, the term "convergence" has been used in the analysis of international economic integration and its highest stage – globalization. The success of the information and communication revolution, the development of new forms of inter-country and intra-sectoral division of labor, the expansion of the world market create unprecedented interdependence of the economies of different countries. Convergence is particularly characteristic of regional integration.

Summarizing the above, the process of neo-industrialization poses the problem of the need for convergence of economic interests, first of all, the regional economic system and economic entities.

II. MATERIALS AND METHODS (MODEL)

The study of the conditions, signs and parameters of neo-industrialization should be begun with clarifying the content of this term, as well as identifying signs, forms of manifestation, targeting and determining the tasks of the functioning of economic entities. The study of economic interests is the area of research of macroeconomics, first of all, at the level of microeconomics the economic interests are not considered enough. Little attention is paid to the convergence of these interests in scientific research. It is assumed that the "invisible hand" of the market economy and "healthy competition" will create conditions and form a balance of

interests. There is practically no scientific research in the field of quantitative assessment of economic interests. The complexity of assessing the consistency of interests lies in the different levels of indicators that reflect economic interests. Regional indicators, defined in accordance with well-known criteria, reflect the "economic interests" of the region, and, as a rule, they are unambiguous – improving the level and quality of life of the population of the region. While the economic interests of economic entities are very diverse and cannot always be reflected by the existing set of known economic indicators. In most cases, enterprises do not coordinate their activities, its effectiveness, development directions, internal social and economic policy with the goals and objectives of the region. At the same time, the conditions of neo-industrialization (achieving a high level of technology development, the formation of a new type of industrial economic development based on digital transformation) require from economic entities to coordinate their economic interests with the economic interests of the territory of presence [3]. The need to assess the level of consistency of economic interests poses the task of formation of methods and methodological support of evaluation. According to the authors, it is possible to use the principle of balance (well-known in the economy and accounting) and/or experience in the formation and use of a balanced scorecard (BSC), developed by D. Norton and R. Kaplan. The "filling" of balance – specification of components of the economic interests – independent task. It is important to identify reasonably the criteria for assessing the level of consistency of interests and on their basis to form a set of different indicators.

The proposed system of assessing the level of consistency of regional interests and interests of economic entities includes the methodology of assessment (sequence of certain stages), justification and development of tools and indicators of assessment (measurement of indicators and assessment of the level of consistency of interests based on the comparison of absolute values and trends of certain indicators).

III. RESULTS AND DISCUSSION

A. *Neo-industrialization as a factor of economic development*

Neo-industrialization is a controversial category that presupposes the process of continuing industrial development. Neo-industrialization is based on qualitatively new industrial postulates, closely related to NBICS-technologies (mutually integrated fundamental areas of knowledge – nano-and biotechnologies, information, cognitive and social technologies). From the scientific point of view, neo-industrialization is a process aimed at changing the means of production and implemented in the form of their comprehensive modernization based on the system of scientific knowledge, information and technologies.

In the conditions of neo-industrialization, the sphere of production, services, the boundaries of industries are "blurred", new productions and industries appear, the structure of the economy is modernized, and as a result, the parameters of the economy change, the interpenetration of structures, methods of functioning, strategies of activity happens.

From an economic point of view, neo-industrialization is aimed at the integration of economic entities and the formation of sectoral and inter-sectoral, regional and interregional clusters with access to modern financial and industrial technologies. The signs of the neo-industrialization: 1) creative and innovative work; 2) highly qualified workforce; 3) scientific and industrial integration; 4) environmental industry; 5) convergence of economic interests of subjects of different levels. The signs of neo-industrialization determine the criteria, indicators and parameters (level of achievement) of this process. Thus, creative and innovative work can be assessed by the result – the size of innovative products, its share in total quantity of production and their dynamics. The high qualification of the workforce can be assessed by the importance and dynamics of the availability of high-tech job places, for example. The degree of scientific and production integration can be assessed by the presence and degree of development of clustering (scientific and production, scientific and technological, scientific and innovative). Environmental friendliness of the industry can be assessed according to indicators of the level of environmental costs and/or the level of capital investments in the environment. The convergence of economic interests is very difficult to assess, since there are very few scientific developments on measuring and assessing the level of consistency of economic interests (first of all, of the economic entity and of the region) and at present time the issue of consistency of interests is discussed at the stage of necessity.

It should be particularly noted that the process of neo-industrialization is accompanied by total digitalization, which allows us to accelerate all processes of production and provision of services (new standards of organization of production and promotion of goods come into force); to expand the boundaries of business activities (new virtual, digital organizations are formed and developed) and business cooperation; to realize the possibilities of innovative development (robotics, nano- and biotechnology, etc.); to speed up significantly the document flow and to reduce essentially the time for development and making management decisions. "Acceleration" of all processes (as a result of digitalization) on the one hand contributes to faster achievement of goals. On the other hand, it creates new problems that need to be solved. Accordingly, the definition and justification of strategic management decisions requires a new "tool platform" – tools for assessment and management.

Industrial development of the country (national economic interests) should be linked clearly with the development of regions and industry of the regions (regional economic interests), as well as be taken into account by economic entities (industrial enterprises and enterprises of production infrastructure). In some specified sense, a common goal - achievement a high level of development of modern industry ("neo-industry") with the help of neo-industrialization determines the need to coordinate the economic interests of the national economy, the regional economy and the interests of economic entities. This conclusion corresponds to a particular case of convergence (discussed below) – the principle of a final common path (this principle was

discovered by C. Sherrington for motor neuron of the spinal cord) [4].

B. Economic interest

A lot of scientific research is devoted to the study of economic interests. In the framework of this study, the authors take a well-known point of view, complementing it with the need and the ability to coordinate the economic interests of the region and the economic entity in the territory of presence. The authors proceed from the classical content of the term "interest" (from lat. interesse) – "to be important". Everything that is important for the development of the national economy, regional economy and business economy should be taken into account.

Economic interests which are common to all regions include: ensuring sustainable economic development, effective use of the existing natural and economic potential, improving the living standards of the population. This commonality of interests contributes to the coordination of social and economic activity of the regions and accordance with national interests contributes to the achievement of common national economic goals. [2]

In all importance and priority of national interests, in the conditions of neo-industrialization, it is most important to achieve convergence of economic interests of the regional economic system and the economic entity.

C. Regional economic interests

At the regional level, there is an own specific system of economic interests. The existence of regional interests is as objective and justified as the existence of group interests of labor collectives of enterprises and sectors of the economy. Presenting a special conditions which are gained by the real specifics, motives and ways of action of the people residing in this territory, these interests are focused on the reproduction of life and labor factors in the regional unit of the production and social and economic structure of society and on the meeting the material and spiritual needs of the residents of the region through effective territorial management [5]. Currently, the regional subjects of Russia have a sensible independence, which increases the importance and inconsistency of regional economic interests.

The inconsistency of the interests of the subjects of the regional economy is obvious, for example, the residents of the region as employees compete with each other for the best job places, both in the labor market and within the company, and as consumers – for the most favorable conditions for the purchase of goods. At the same time, the economic entities aspire to minimize the cost of wages, and at the same time to attract highly skilled workers. In addition, there is a clash of interests for control over sales markets, for obtaining limited resources between enterprises. "However, the transition to a qualitatively new level of development of the company requires an integration interaction between economic entities - corporate integration" [6]. Interacting with the authorities of the region and the state, enterprises are trying to reduce the tax and social burden, to protect their property rights. Using in their activities both federal and regional resources, economic entities are forced to coordinate their actions with the

authorities. In the framework of effective social and economic development, the region in the implementation of its economic interests should take into account the interests and needs of other subjects of the region.

As a result, the implementation of economic interests as a system of economic relations between the subjects of the regional economy is expressed through the development of production, the creation of additional job places, improving the demographic situation, maximizing tax revenues, the development of a competitive market environment, the growth of investment attractiveness of the region and the improvement of social and economic regional indicators as a whole.

D. Convergence of economic interests.

The term "convergence" comes from the Latin "convergo" (convergence), which means "converge". The convergence has long been widely used in various sciences: in theories of anthropogenesis and in ethnography, in history, sociology and cultural studies, in economics, in political science, etc. The convergence of information spaces is of great interest in modern society [7]. Convergence (the antonym of the word "divergence") can occur as a result of self-initiation (awareness of the need), as well as under the influence of external conditions (external controlled and uncontrolled influence). In a definite sense, the convergence is the result of the pursuance of sustainability of any economic system.

Currently, they talk about NBIC-convergence (according to the first letters of scientific fields, by analogy with neo-industrialization: N-nano; B-bio; I-info; C-cogno). The term was introduced in 2002 by Michail Roco and William Bainbridge, the authors of the most significant work in this direction at the moment [8]. The distinctive features of NBIC-convergence include: intensive interaction between these scientific and technological fields; significant synergetic effect; breadth of coverage of the subject areas which are under consideration and affected; identification of prospects for qualitative growth of technological opportunities for human development [9]. The results of NBIC-convergence in the conditions of neo-industrialization are particularly important.

Taking into account the above, the need for convergence should be noted, i.e. convergence of economic interests in the conditions of neo-industrialization. The implementation of the "principle of a final common path" (a special case of convergence) suggests that the problems of neo-industrialization can be solved only by joint efforts, "concerted actions".

E. Assessment of economic interests.

Assuming the need for convergence of economic interests, it is important to define a set of indicators to assess their convergence. In some scientific publications the problems of interaction of economic interests of the state and regional authorities and business structures are considered, the criteria and indicators by means of which it is possible to assess the level of convergence of economic interests are offered, but only in the presence of the structure-forming branch of the region [10]. The authors developed a method of assessing the

level of consistency of economic interests of the regional economic system and economic entities, based on a comparison of special indicators. The classical content of economic interest served as a justification for the choice of criteria for its assessment: the increase of the economic result (per one employed/working person), income growth (per capita/employed person), the increase in financial (per one employed/working person), the increase of the number of employees. These criteria should be supplemented by criteria reflecting the convergence of economic interests in the context of neo-industrialization: increase of creative and innovative work and its effectiveness; growth of labor force qualification; activation of scientific and production integration; increase of industry ecological compatibility.

To assess the interests of the regional economic system (regional indicators), one set of indicators is needed (for example, the level and quality of life of the population, the level of industry development in the region, the level of development of production infrastructure, social indicators, etc.). To assess the interests of an economic entity – another (indicators are specific and well-known – performance indicators). However, it is important that indicators reflect certain "facets" of interests. The indicators used to assess the level of consistency of economic interests should have reasonable assessment criteria; be grouped by "facets" of interests; be statistically measurable, observable and independent; be comparable (the calculation method is known, accepted and is not be changed over the entire period of analysis). The proposed indicators are assessed and compared by trends (P – positive trend, N – negative trend, U – unstable trend). At the same time, there are three levels of consistency of economic interests: high, medium, low.

TABLE I. INDICATORS OF ASSESSMENT OF THE LEVEL OF CONVERGENCE OF ECONOMIC INTERESTS OF THE REGIONAL ECONOMY

No.	Regional indicators	Indicators of economic entity	Unit of measure.
1	The volume of GRP per employee Indicator trend	The amount of VP per worker Indicator trend	thousand rubles/person
2	Annual income per resident Indicator trend	Annual salary per worker Indicator trend	thousand rubles/person
3	Financial result of the industrial work (profit) per employed person Indicator trend	Profit per worker Indicator trend	thousand rubles/person
4	Number of workers in the region (employees) Indicator trend	Average annual number of workers Indicator trend	thousand people
5	Number of high-tech job places Indicator trend	Number of high-tech job places Indicator trend	thousand units
6	Share of innovative products in total industrial output Indicator trend	Share of innovative products in overall production Indicator trend	%
7	Environmental friendliness of activities Indicator trend	Environmental friendliness of activities Indicator trend	million Rubles
8	Scientific and production integration Indicator trend	Scientific and production integration Indicator trend	+/-

The authors propose to call a set of indicators for measuring and quantitative assessment of the economic interests of subjects of regional economy as a "balanced" system of indicators. The system is presented in table 1 in aggregate form.

The authors of the article have undertaken an experimental effort to test the methodology of assessment of the level of convergence of economic interests of the region and of the economic entity. The Volgograd Region "VR" acted as a region, the organization "XC" as an economic entity (the name is conditional, economic information is real, aggregated).

The results obtained require further interpretation and analysis. However, the information already obtained (table 2) allows us to assess the level of convergence between the interests of the regional economic system and the economic entity. In the case of the above example, the level of consistency of economic interests is assessed as average.

TABLE II. ASSESSMENT OF THE LEVEL OF CONVERGENCE OF ECONOMIC INTERESTS OF THE REGIONAL ECONOMY

Regional indicators		Indicators of economic entity	
Name	VR	XC	Name
1. The volume of GRP per employee Indicator trend	481 P	3014 P	1. The amount of VP per worker Indicator trend
2. Annual income per resident Indicator trend	505 P	409 P	2. Annual salary per worker Indicator trend
3. Financial result of the industrial work (profit) per employed person Indicator trend	45 U	385 U	3. Profit per worker Indicator trend
4. Number of workers in the region (employees) Indicator trend	1193 N	5.4 U	4. Average annual number of workers Indicator trend
5. Number of high-tech job places Indicator trend	241 N	0.5 N	5. Number of high-tech job places Indicator trend
6. Share of innovative products in total industrial output Indicator trend	0.6 N	0.3 N	6. Share of innovative products in overall production Indicator trend
7. Environmental friendliness of activities Indicator trend	1375 U	46.7 P	7. Environmental friendliness of activities Indicator trend
8. Scientific and production integration Indicator trend	+ N	+ P	8. Scientific and production integration Indicator trend

The presented results of testing allow us to conclude that it is possible to assess the level of consistency of economic interests (according to certain qualitative characteristics).

Also, the obtained results can be used in the development of strategic plans for the development of both economic entities and the region. Moreover, when developing a strategy for the development of the region, it is necessary to include a section (and forecast calculations) to assess the level of consistency of economic interests of the region's economy and economic entities in the territory of presence.

IV. CONCLUSION

Within the framework of the paradigm developed in this study, the need for convergence of interests of economic entities of the regional economic system in the context of neo-industrialization should be considered in a broader sense, as the problem of forming a new model of development of the regional economy based on digitalization, modern production and management technologies, obtaining integration effects.

The results of the study can be useful for the development of strategies for the development of economic entities based on the convergence of their own economic interests with the goals, tasks and directions of development of the region – the territory of presence.

According to the authors, the identification and assessment of the level of convergence of interests of subjects of different levels requires further theoretical justification, the formation of a system for assessing the achievement of economic interests, their "measurement", because you can only control what can be measured.

The further direction of the research is the formation of the system of economic interests of the region, economic entities in the territory of presence in the conditions of neo-industrialization, which involves clarifying the criteria and indicators of convergence of economic interests.

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