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State Strategic Planning Experience in the USSR in Theoretical and Empirical Studies*



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Abstract. In recent years, the Russian Federation has been forming a strategic planning system, which exists in many countries with market economics. However, success of its implementation is assessed critically in scientific literature. This is where the goal of this article becomes relevant – expansion of theoretical and methodological framework, including instruments of new institutional economic history for studying empirical sources concerning institutional practices of USSR centralized planning from the perspective of needs of the RF strategic planning economics system. The greatest attention to this problem is paid in the development and institutional economics, which are interconnected with each other. The novelty of the research consists in the fact that we put forward our own methodological questions in the context of our original understanding of trends of development economics' evolution on the basis of our interpretation of studies which explored Soviet experience of centralized planning; formulation of working hypothesis for further empirical studies and their theoretical generalization. We use historical genetic and problematic approaches, general logical methods and techniques – system approach, generalization, analysis and synthesis. We compare individual concepts in the sphere of development economics with empirical studies. We find out that the slowdown of USSR economic dynamics urged

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development economics theorists to shift their focus from macroeconomics' modeling of production factors to the analysis of the institutional environment features. The approach to centralized planning as a key instrument of overcoming "traps of underdevelopment" ("market failures") was substituted with understanding of transactional costs connected with it ("state failures"). It was stated that important issues, such as cooperation between institutions of scientific knowledge and state's management of economics, were not properly analyzed. The conclusion was drawn that the research on empirical sources, concerning institutions of soviet planning, using theoretical and methodological instruments of development economics, enriched with concepts of institutional economics, will contribute to the formation of new theory of national and regional economics' planning in the paradigm of post-Soviet institutionalism.

Key words: centralized economics, catch-up development, USSR, economic policy, institutional traps, market failures, state failures, history of economic thought.

Introduction

The novelty of the research is defined by the formation of the economic strategic planning system¹, in accordance with Federal Law no.172-FL "On strategic planning of the Russian Federation", dated 28.06.2014. In case of institutional economics, this system might be defined as a set of institutions which provide cooperation of political and economic entities for implementation of events aimed at defining long-term (together with short-and medium-term) priorities, target indicators, instruments of its public regulation, and public property management. Similar systems work in many countries with market economy. At the same time, success of the first stage of such system implementation in RF is critically assessed in scientific literature (for example, [1; 2; 3]). It leads to the necessity to correlate the USSR planning experience with relevant theoretical and empirical developments.

Relevance of Soviet planning experience is underlined by the release of the third, revised edition of the textbook (25 years after the

¹ In addition to the economy, public strategic planning includes the social sphere and national security; it refers to different territorial units (the Russian Federation, entity of the Federation, municipal formation), sectors of the economy, but does not directly affect enterprises (firms).

previous one) written by one of the most experienced specialists of this sphere – M. Ellman². Significant progress in theoretical and methodological comprehension of different planning types, within economic policy's objectives of countries with medium³ and high⁴ income levels, was recorded in a collective monograph edited by M. Yülek⁵. Another monograph, edited by A. Amsden and her colleagues⁶, was a serious attempt to directly analyze the problem of relations between political elite and scientific society from the theoretical standpoint of development economics. In domestic literature, work of national economics' catch-up institutions was reviewed, in particular, works by V.M. Polterovich [5], who suggested recommendations in the field of interactive planning policy.

² Ellman M. *Socialist Planning*. 3rd ed. Cambridge (U.K.): Cambridge University Press, 2014.

³ Turkey, China, South Africa.

⁴ Japan, South Korea, Israel, Ireland.

⁵ Yülek M.A. (Ed.). *Economic Planning and Industrial Policy in the Globalizing Economy: Concepts, Experience and Prospects*. Springer International Publishing Switzerland, 2015. The most informative article was written by M. Babacan [4].

⁶ Amsden A.H., DiCaprio A., Robinson J. A. (Eds.). *The Role of Elites in Economic Development*. Oxford University Press, 2012.

However, the statement of the scientific problem – actualization of theoretical understanding of Soviet experience concerning centralized planning in terms of development economics (hereinafter – DE) and within formation of the strategic planning system in RF economy – is new. In this regard, this paper presents original understanding of development economics' evolution trends within its interconnection with other scientific areas. Besides, scientific novelty of the work consists in our methodological questions within our own interpretations of research contents, which explored Soviet experience of centralized planning in the light of development economics and scientific areas connected with it; phrasing of working hypothesis which suggest areas of further empirical studies and its theoretical generalizations.

Respectively, the goal of this article is to expand theoretical and methodological basis and instruments of new institutional economic history for studying empirical sources about institutional practices of centralized planning in the USSR from the perspective of the strategic planning system of the RF economy' needs.

The given goal defines the following objectives:

1. To systematize the theoretical and methodological instruments which have been developed and tested in the works of DE authors at different stages of its evolution (from the 1940s until now) and in scientific literature related to it.

2. To show its place in the development of the USSR planning economics on the basis of critical analysis of different theoretical and empirical works.

3. To show spheres of interconnection between theoretical concepts of development economics and institutional economics with empirical studies of the USSR economics.

4. To determine factors which affected the assessment of Soviet experience.

5. To determine aspects of institutional interaction between planning entities which were not explored due to DE discourse.

6. To define working hypothesis for further studies of scientific problem of institutional cooperation between science representatives and public governance of the USSR economy.

Research subject also includes theoretical and methodological instruments of development and institutional economics which were used for studies of Soviet planning practices in analyzed scientific literature. These instruments include the set of concepts, models, and basic approaches to defining goals of socio-economic development.

To complete objectives of the research, we used historical genetic and, to a lesser extent, problem-based approaches, as well as general-logical methods and techniques: systematic approach, generalization, methods of analysis and synthesis. At the same time, we compared separate DE theories with empirical researches (scientific works about economic Sovietology, economic history).

The article consists of the introduction, three sections, and the conclusions. In the first section “*Development economics as a scientific sphere*”, we explore, why the structure and instruments of DE are more relevant to objectives of studying practices of Soviet centralized planning. The second section “*Evolution of Soviet centralized planning experience assessment*” explores the change of position, which was occupied by the analysis of Soviet centralized practice experience within DE sphere and literature, connected with it. The usage of reviewed theoretical and methodological instruments for the analysis of historical experience of the USSR development economics, in order to define strategic priorities

of the RF economy's public policy, is discussed in the third section – “*Development economics as a research program within the policy of catch-up modernization*”. Primary results and brief working hypothesis for further studies are given in the *conclusions*' section.

1. Development economics as a scientific sphere

Prevailing neo-classical trends of economic thought (mainstream, neo-institutionalism is also included in it) cannot analyze long-term planning of national economy as appropriate and efficient instrument of public structural policy due to corresponding axiomatic *laissez-faire* (economic state's passivity). Neo-institutionalism, also based on the principle of methodological individualism, accepts the necessity of state's interference only with the spheres of establishing economic activity rules and contracts' fulfillment enforcement.

At the same time, planning, as the large-scale technology of state management of the territory's economy, may gain legitimization in theoretical DE constructions. This scientific area studies regularities of economic systems' transformations as controlled dynamic process, focusing on problems of qualitative changes. Usually, objects of the analysis are different territorial economic systems (settlement, region, country, geographical group of countries, world as a whole), but in most cases it means the national economy. DE supporters often proceed from the insufficiency of market mechanisms for getting out of institutional traps and inefficient equilibrium states. Thus, the necessity of an active and proactive public policy, in order to bridge the socio-economic gap, is justified.

We analyze DE as a component of the interdisciplinary modernization paradigm which emerged in the 1950s. This paradigm, just as Neo-classicism and Marxism, proves

country-wide patterns of transition from a largely agricultural natural economy to a dominant industrial economy, but accepts specifics of in-country processes' forms. Systemic approach to structural and social aspects of economic dynamics and state's economic policy has been preserved for more than eight decades of this sphere's evolution (*Table*).

While forming its theoretical basis, DE, as an alternative to classic economy, used ideas and approaches of Neo-Keynesian economics (active government's regulation) and Marxism (proactive role of government in systemic regulation). In the course of further evolution, it proved to be quite receptive to positive ideas of other scientific economic trends (human capital theory, neo-institutionalism, neo-Schumpeterism). Recently, DE has been showing signs of increased studies aimed at addressing relevant global issues. Everything mentioned above formed theoretical and methodological instruments relevant for studying transforming communities.

It is important not to overestimate the extent of responses to economic policy's requests DE may provide, because its theorists' predictions have not always been confirmed [6, p. 43]. Cases of successful catch-up development are statistically rare and usually occur in East Asia. This region includes, primarily, large countries, economy of which received a favorable scale effect and, in turn, significantly affected other countries. This means that the theory should be considered “working” and applicable to the study of domestic empirical sources in the long-term historical and economic dynamics.

2. Evolution of Soviet centralized planning experience assessment

Development economics, economic Sovietology, and transition economy (transitology) were observed by M. Ellman as separate

Evolution of development economics discourse

Stage	1940s – late 1970s	late 1970s – 1990s	2000s – 2010s
Paradigm characterization	Structuralist	Neo-liberal	Neo-structuralist
Main approaches	Neo-Keynesian macroeconomics, with emphasis on “market’s failures” and accelerated capital accumulation (primarily physical)	Appeal to market mechanisms and role of liberal institutions, with emphasis on “state’s failures”, within increasing influence of neoclassical theories	Protection of active state policy of stimulation while keeping pro-market principles of openness and economy’s competitiveness
Priority countries-objects of analysis	Eastern Europe, USSR, Japan, Latin America	East Asia, Latin America	China, India, middle-income countries, Japan
Concepts, models, and major supporters	Big push model (P. Rosenstein-Rodan), unbalanced growth model (A. Hirschman), stages of growth model (W. Rostow), modern theory of economic growth (S. Kuznets), hypothesis on the relation between income inequality and economic growth (“Kuznets curve”), the theory of dual economy (W. Lewis, G. Ranis), the vicious circle of poverty theory (H. Leibenstein, R. Nurkse), advantages of backwardness theory (A. Gerschenkron), theory of economic dependence (R. Prebisch, C. Furtado), the model of borrowing and new technologies diffusion (R. Nelson, E. Phelps), planning model of macroeconomic policy (J. Tinbergen, R. Frisch)	Models of endogenous (R. Lucas, P. Romer) and exogenous growth, hypothesis on the relationship between environment and level of development (“environmental Kuznets curve”, J. Sanford, A. Krueger), development state theory (Ch. Johnson), concept of “the resource curse” (A. Gelb, R. Oti). Alternative to mainstream: concept of human development (A. Sen, M. ul-Haq)	Innovative growth model based on “creative destruction” (Ph. Aghion, P. Howitt), the theory of new structural economics (J. Yi. Lin), theory of extractive and inclusive institutions (D. Acemoğlu, J. Robinson), unified growth theory (O. Galor), the middle income trap concept (I. Gil, H. Haras, B. Eichengreen), concept of premature deindustrialization (D. Rodrik)
Influence of close areas of economic science	Neo-Keynesianism (R. Harrod, E. Domar), Russian Marxism (E.A. Preobrazhensky, G.A. Feldman), European Marxism (K. Mandel’baum (Martin); M. Dobb, M. Kalecki), human capital theory (T. Schultz, G. Becker)	Neo-institutionalism (D. North, J. Buchanan, M. Olson), neo-classical mainstream (G. Mankiw, D. Romer, D. Vale), transitology, human capital theory (T. Schultz, G. Becker)	Neo-schumpeterism (P. Aghion, P. Howitt), political economy (D. Acemoğlu, J. Robinson), neo-institutionalism, human capital theory (G. Becker), post-Keynesian economics (J. Stiglitz)
Development goals	Increase of per capita GNP, security ensuring of maximum employment, changing the structure of the economy towards manufacturing	Increase of per capita GNP, meeting basic needs, poverty reduction, sustainable development. Alternative: expansion of the selection space, implementation of human potential	Sustainable development, improvement of life quality, inequality reduction, eradication of absolute poverty
Political strategy	Industrialization, import substitution, income equalization, development planning, interventionist policy on prices, directive methods of planning	Financial stabilization, privatization, economic openness, industrial policy	Globalization, implementation of comparative advantages, green economy, financial development, improving the institutional environment, national and regional economic planning

Sources: compiled according to: Chenery H., Srinivasan T.N. (Eds.). *Handbook of Development Economics*. Vol. 1. North-Holland: Elsevier BV, 1988; Chenery H., Srinivasan T.N. (Eds.). *Handbook of Development Economics*. Vol. 2. North-Holland: Elsevier BV, 1989; Behrman J., Srinivasan T.N. (Eds.). *Handbook of Development Economics*. Vol. 3A. North-Holland: Elsevier BV, 1995; Behrman J., Srinivasan T.N. (Eds.). *Handbook of Development Economics*. Vol. 3B. North-Holland: Elsevier BV, 1995; Schultz T.P., Strauss J. (Eds.). *Handbook of Development Economics*. Vol. 4. North-Holland: Elsevier BV, 2008; Rodrik D., Rosenzweig M.R. (Eds.). *Handbook of Development Economics*. Vol. 5. North-Holland: Elsevier BV, 2009; Yülek M.A. (Ed.). *Economic Planning and Industrial Policy in the Globalizing Economy: Concepts, Experience and Prospects*. Springer International Publishing Switzerland, 2015; Yülek M.A. (Ed.). *Industrial Policy and Sustainable Growth*. Springer Nature Singapore Pte Ltd., 2018.

scientific areas, produced by different institutional systems' [7]. He also posed a question about its common contribution to modern economic theory. In the search for appropriate theoretical and methodological instruments for the analysis of planned economies, we are interested in spheres of cooperation between major areas of scientific literature (*Figure*).

Some researchers preferred to define Soviet model as “administrative” [8; 9], or “centrally managed” [10], in comparison, or additionally, to “planned”. It underlines instrumentality, not substantiality, of national economy planning, which could be applicable in different institutional systems.

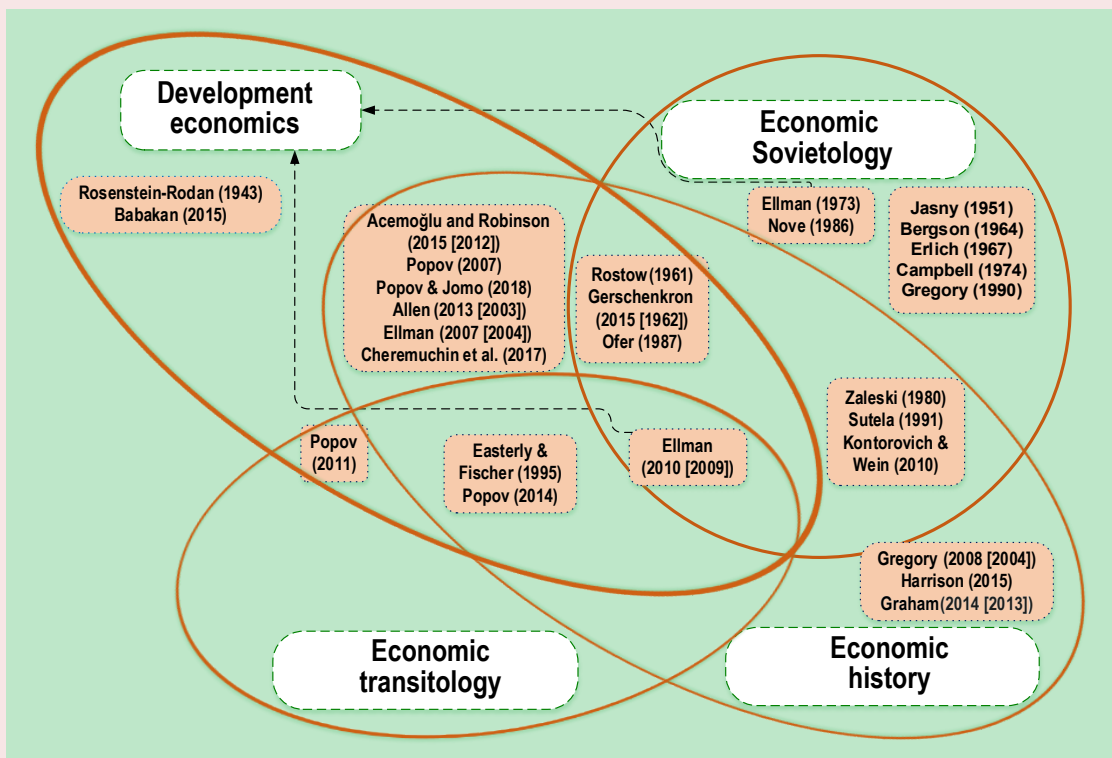
In DE discourse, the USSR planning strategy was explored by British Sovietologist of Russian origin – A. Nove [11, pp. 379–383]. He attributed short-term and perspective plans

(for 15 years and more) to development plans which were basic for investment programs [11, pp. 17–18]. According to him, it was their difference from operational (annual and quarterly) plans, which contributed to directive management of production units. Besides, Nove admitted motivational value of plans [11, p. 26].

Within special strategy of economic development, planning in the USSR was studied by R. Campbell [9, pp. 141–169] and A. Erlich [12]. Campbell, while praising mobilization of Soviet institutions, pointed out inefficiency of resources' consumption [9, p. 141]. Erlich also noted economy's below-potential growth rates, because the strategy of its development was overly focused on increasing capital intensity [12, pp. 259–268].

In 1973, Ellman pointed out rationality of directive (not indicative) planning of the 1930s

Interaction of directions of scientific literature in assessing the Soviet planning experience



USSR economy. According to him, economic system, which wants to quickly bridge the development gap in the environment of external military threats and failures of market mechanisms functioning, tends to use mobilizing methods [8, p.172]. Proponents of DE [13] and economic Sovietology [11, p. 142] supported this position. M. Ellman [14, pp. 219-220, 227; 7, pp. 7–8], V. Kontorovich and A. Wein [15], M. Harrison [16] later wrote about the defining importance of the military factor. At the same time, authors of Sovietology books (the late 1960s – the early 1970s) admitted that gradual transition to indicative planning, at first in the direction of “decentralization”, Hungary and Yugoslavia’s “market socialism”, using methodology of “optimal planning” [8, pp. 143–150, 187, 180–194; 9, pp. 39–40, 137–140, 201–240; 11, pp. 38–47, 390], would be advisable and possible. However, theoretical and practical technologies of the transition were not systematically developed.

Thus, in DE paradigm, centralized planning might be perceived as the key instrument of certain countries’ catch-up strategy implementation, a way of overcoming institutional “underdevelopment traps” in the environment of increasing level of external threats⁷. It involves the concentration of limited resources in a single center, authorized to make decisions on distribution, in order to reduce transactional costs associated with conflicts of interest, competition, and provision of incomplete information in case of economic agents.

The basis of national economy’s directive planning is a combination of short-, -medium and long-term key indicators of certain community’s development, acquired by scientific, according to its supporters, methods. In the USSR and other countries with increased role

of the government in the economy, entities of the planning did not cooperate efficiently all the time, and it led to “state’s failures in economic policy”⁸.

In this regard, it is interesting to try to introduce methods of balance sheet calculations based on “input – output” tables, linear programming, and optimization models in the process of preparing plans. Soviet government’s support of scholars, working in the spheres of economics and mathematics, which emerged in the late 1950s – the early 1960s, was limited to technical assistance.

At the same time, scholars’ propositions to set mandatory rules of decision-making, which would limit spheres of concerned departments’ powers, faced opposition [8, pp. 79, 178–186; 11, pp. 47, 324–328, 390].

In turn, supporters of this sphere proceeded from a technocratic understanding of the political decision-making process, which did not take into account the existence of goals lying outside the economy itself: for example, full employment security and income equalization. A fundamentally important constraint was the integrity of the Soviet socialist ideology, which legitimized the use of power resources by the USSR political elite.

Discussion of examples of new mathematical methods of planning in Sovietology literature showed the connection between this problematics and DE discourse. This is especially evident in the context of its comparison with main economic theories: Neo-Keynesian economics (cross-sectoral interactions and aggregate growth), Marxism (social and political factors of distribution), and neo-classicism (balance and efficient allocation of resources) [8, pp. 179–180].

⁷ This idea in the discourse of linear modernization was expressed by W. Rostow [17, pp. 230-232].

⁸ Theoretical analysis of mechanisms of economic policy development and cooperation of its entities was suggested by S.A. Afontsev [18].

It should be noted that, despite limited technical means of plans' compilation, its internal imbalances, and institutional problems of cooperation between planning entities, development of the Soviet system, until the early 1960s, primarily matched its own structural priorities and performance criteria. Even though they were not always operationalized in current plans [11] and were not carried out to the extent determined by political attitudes [8; 11]. The most important factor in the literature of the late 1960s – the early 1970s was the existence of strong state institutions that ensured the implementation of plans.

While development rates of Soviet economy in the 1970s slowed, and structural crisis deepened in the 1980s, another aspect of Sovietology, supported by N. Jasny [19] and A. Bergson⁹ [20], strengthened. This aspect emphasized shortcomings of Soviet planning institutes, and it was based on the theoretical arsenal of neo-institutionalism and neo-classicism.

For studying practices of the USSR centralized planning, Gregory and Harrison used instruments of neo-institutional theory. Gregory opposed planners (*apparatchiks*) to economic managers [21]. Planners primarily established rules and monitored, while economic managers signed contracts for the allocation of resources and took risks and responsibilities for results. Gregory did not select scientific elite as an individual entity of the planning process¹⁰ and denied any scientific approaches to plans' drafting.

⁹ A. Bergson tried to find internal logic of economic decisions within goal-setting and mechanisms of socialist system's functioning.

¹⁰ Just like historians of economic thought did it. For example, P. Sutela [22, p. 26-48]. In this paper, the contribution of early Soviet economic thought to the formation of development economics, planning economics, and mathematical economics' foundations was noted. It also outlines further ways of complex interaction of economic science with the "engineering" approach to planning by state structures.

In other work, based on information from archives, opened in the 1990s, Gregory showed how, instead of vertical subordination, lobbying and administrative bargaining were carried out on different levels of the Stalin's economy¹¹ [23].

After J. Kornai [27, pp. 137–156], P. Gregory [21, pp. 15–19, 47–49; 23, pp. 22–23, 182–184, 317–322], and M. Harrison [16, pp. 305–323, 353–357] explained these phenomena as a conflict of interest between the principal (representing the national economy) and its agents (representatives of industries and regions). Harrison paid attention to increasing transactional costs of informational monitoring and agents' enforcement [16, pp. 391–392, 412–413].

In economic literature of the 1980s – the 1990s, critical assessment of Soviet system development also prevailed. Catch-up development experience, gained through the usage of centralized planning and economy's management, received minimal positive assessments in generalizing DE books¹², published in the late 1980s. In mainstream transitology, the contents of further socialist countries' development were interpreted as the rejection of planned mechanisms in favor of the ones regulating market. Sectoral priorities, boundaries of free pricing introduction, and property privatization were also discussed.

While analyzing reasons of sharp slowdown of Soviet economy, G. Ofer [13] pointed out specifics of its development strategy. It was about maximum accumulation of physical capital, new construction instead of reconst-

¹¹ These phenomena are attributed in the literature to the essential characteristics of the economy of the late Soviet period in the concept of administrative market (the economy of approvals, the economy of hierarchical bargaining), which describes the processes of exchange of power resources for economic [24; 25; 26]. In turn, this concept was developed by adapting the instruments of neo-institutional theory of public choice.

¹² See sources of *Table* compilation (section 1).

duction, which led to low elasticity of production factors' substitution. He also reviewed institutional problems, related to the inflexibility of the economic system, weak interest of enterprises in the introduction of scientific achievements and organizational innovations.

W. Easterly, S. Fischer [28] relied on G. Ofer's idea [13], concerning low elasticity of production factors' substitution in the USSR, which became a fatal weakness of the extensive development strategy at later stages. As the result, the USSR economy growth was lower than in reference countries (first of all, in East Asia in the 1950s–1980s), and it had low efficiency in comparison with the growth of production factors (physical and human capital¹³). However, the generalizing conclusion about the negative impact of planning on growth rates did not answer the following question: why growth rates were high in the USSR at the early stage of development.

A revision of pessimistic assessment of Soviet planning began in the 2000s. Thus, R. Allen [29] relatively highly estimated the USSR achievements in the 1930s (implementation of the “great push” [30], “rise” [17], and “great breakthrough” [31] models). These assessments did not become unanimous, but this work caused a significant resonance in historical and economic literature. Opposing researchers accepted a number of its arguments.

Summing up the discussion on the economic growth rates, M. Ellman [14, p. 227] admitted that, although the Soviet breakthrough was not globally “outstanding”, it certainly stood out against the mediocre results of Africa, Latin America, and India between 1928 and 1989.

¹³ In this staged work, indicators of human capital in natural units were used for the analysis of Soviet economic growth for the first time: coverage of secondary education, the share of specialists with higher education in total population.

A. Cheremukhin and co-authors noted that the level of institutional barriers of intersectoral mobility of production factors significantly decreased at the early Soviet stage [32, pp. 27–28].

From the position of DE, there were attempts to answer the question (“Why the development slowed down, and the quality of its structure worsened at the later stages of the USSR”) in a new way. According to R. Allen [29, pp. 259–272], the country's authorities chose false development strategies of the economy which brought its structure closer to “third world” countries.

V.V. Popov [33] proceeded from the statement that planned system has its own life-cycle, which is determined by the time of fixed assets' service (20–30 years) and the moment of sharp increase of accumulation norm. Building on G. Ofer's idea about elasticity of labor replacement by physical capital, V.V. Popov argued that the key factor of development rates' slowdown in the 1960s–1980s was manufacturers' disinterest in timely replacement of obsolete equipment¹⁴. Also, he paid attention to progressing weakening of state's institutional potential in the late USSR (in comparison with China in the 1950s–1970s), which determined failure of gradual economy's reformation [34, pp. 25–33, 310–316; 35, pp. 104–114].

According to D. Acemoğlu and J. Robinson [36], within strengthening of “extractive” institutions of state coercion, central planning, and mobilization economy, growth rates were below possible even in the best periods. Most importantly, growth rates could not be sustainable with the exhaustion of excess labor in the low-productive agricultural sector, the

¹⁴ The way of thinking opposite to the one supported by R. Allen [29, pp. 261–265] who wrote about preferences of planners to implement reconstruction of working enterprises, which turned out to be less economically efficient than shutting down of old enterprises and opening of the new ones.

growing rent-seeking of political elite and weak incentives to innovation spreading.

However, these authors did not answer question of how primarily illiberal institutions of South Korea, China, and other Asian countries have been keeping relatively high growth rates and timely adapting its institutions to “inclusivity” for a long time.

Russian economists of institutional school E.V. Balatsky and N.M. Pliskevich [37], criticizing monocausal authors’ approach, rightly pointed out underestimation of social mobility factor and the existence of “mixed” institutional regime in the early USSR.

On the other hand, D. Acemoğlu and J. Robinson’s [36] main point was illustrated by L. Graham [38] on the basis of history of Russian science development. He managed to systematize factual material showing the commitment of Russia’s age-old development trajectory to catch-up (not innovative) model, which defining factor of scientific and technological development was interest of state’s institutes in security provision. The same institutes blocked the commercial distribution and usage of advanced scientific achievements.

Thus, Soviet experience was one of the largest historical examples which planted seeds of DE. Its analysis in this paradigm was conducted within cooperation between theoretical thought and empirical works. However, its importance to DE was lowering together with the slowdown of the USSR economy, the growing institutional problems of interaction between its subjects, and the subsequent collapse of the country.

Mostly unsuccessful results of the transplantation of Soviet economic institutions in other countries were added to mentioned factors. Under these circumstances, the interaction of DE with other areas of economic science, primarily with neo-classicism and neo-institutionalism, intensified.

Certain Sovietologists (most of all, M. Ellman) in their works identified scientists-economists as individual entities, claiming to participate in making planned decisions. However, M. Ellman noted signs of their technocratic understanding of economic rationality.

Recently revived interest of DE supporters in Soviet experience is characterized by intensified discussions about the role of institutes, which provided fast structural USSR transformation and country’s victory in The Great Patriotic War. However, they simultaneously contributed to slowdown of growth and reversal of several socially important indicators in the 1960s and the 1980s.

3. Development economics as a research program within the policy of catch-up modernization

It is quite natural that the modernization agenda, related to DE, has a tendency of being actualized in the political discourse of Russia [39] and other countries of catch-up development [40]. In this regard, it is important to find an adequate positioning of this agenda in a comparative historic context. Russia is a country that made the transition to an industrial society during the Soviet period, but lags behind the world’s “technological border”. Russia has achieved high quantity (but not quality and value) indicators of human capital, measured in natural units’ numbers [41, pp. 266–277; 42, pp. 38–50]. Despite the attempts to import several institutes of post-industrial society, the state of institutional environment is assessed as weak. At the same time, within ultra-high efficiency of mining industries, Russia continues to be exposed to the risks of early deindustrialization¹⁵ due to low competitiveness of processing industries.

¹⁵ Its factors and mechanisms in the middle income countries were analyzed by D. Rodrik [43].

In this regard, there is still room for improvement of the DE theoretical paradigm through the usage of instruments of new institutional economic history. Its key concepts were reviewed on the basis of domestic sources by R.M. Nureev and Yu.V. Latov [44, pp. 17–19]. Among them, such concepts as “competition” of institutions and its “selection” as a result play a crucial part. Other examples of corresponding empirical analysis [45, pp. 75–78] also indicate significant potential of DE. D. Acemoglu, P. Aghion, F. Zilibotti [46] proved the pattern, arising from the typological differences of socio-economic development of “relatively lagging behind” countries, established by A. Gerschenkron [31]. Their technological model means: the further national economy from the global “technological border” is, the more benefit in following strategies, typical for catch-up development, its meso-economic entities have. It means borrowing technologies which use political institutions, stimulating accumulation of capitals but limiting the competitiveness.

This pattern is largely supported by economic development trajectories of the USSR and other socialist countries. Thus, in relation to the USSR in the 1930s and the 1950s, there was a reduction of the gap, followed by its stabilization in the 1960s and the 1980s. In the 1950s–1980s, there was a moderate convergence of South-Eastern European countries and divergence of the most developed Central European countries with Western countries [47; 48].

In turn, potential of economic system for efficient borrowing of technologies and institutes expresses the term “absorptive capacity” (as opposed to “innovative”), developed by V.M. Polterovich [5, p. 42, 47]. This is a multidimensional concept, which also includes the

efficient interaction of interested social groups.

The division of terms “effectiveness” and “efficiency” has the crucial importance for the analysis of Soviet experience. According to GOST ISO 9000-2011 (p. 3.2.14, p. 3.2.15), effectiveness is “the degree of implementation of planned activities and achievement of planned results”, and efficiency is “the connection between results achieved and resources used”¹⁶. Close understanding of these terms is given by V.N. Leksin and B.N. Porfir’ev. They underline that effectiveness may have quantitative and specific qualitative expression, while efficiency may have only quantitative expression [49, pp. 84–85]. At the same time, the concept “effectiveness” is actually considered to be a component of the quite wide concept of “efficiency” [49, p. 83; 50, p. 80] in normative documents and in practice of implementation assessment of the RF state programs.

It should be noted that this understanding of effectiveness makes sense only if there is a plan. However, the result of an activity might be compared not only with the planned results, but also with the actual results achieved by rivaling economic entities. Corresponding indicators for national economy might be the volume of the key investment goods output, the level of the economy’s energy intensity, and the availability of critical technologies.

Well-known facts and quantitative assessments, cited in the literature (see section 2), show that centrally managed economic systems, based on non-economic coercion, can show positive effectiveness (for example, in binary opposition “is” or “is not”), but low levels of efficiency (“...one Victory is needed, ... nothing of value ever is”).

¹⁶ GOST ISO 9000-2011. Quality management system. Fundamentals and vocabulary. Put into effect by Rosstandart’s order no. 1574-st, dated 22.12.2011. M.: Standartinform, 2012. p. 12.

At the same time, it is important to understand that specific historical target parameters and efficiency criteria are set by the political elites' priorities at different stages of social development. The presence, or absence, of consensus on this issue with scientific elites is an important factor of their cooperation.

Thus, the target planning parameter for a catch-up country is its *speed*, which was considered a main efficiency criterion by Stalin's political authorities. This issue, within the USSR general strategy of economic development, was reviewed by G. Ofer; in relation to the accumulation of human capital – D.V. Didenko. The high norm of intertemporal preference, associated with this parameter, was the cause of economic growth instability (current rates are more preferable than the future ones) [13, pp. 1798–1901] and reduced efficiency in terms of the relation of socially important results to additional costs [41, p. 308].

In catch-up economy, selective import of institutes (mainly through state entities) can also be enhanced in order to bridge the gap between it and the most economically developed countries. However, the establishment of institutions, suitable for solving current and medium-term issues of catch-up development, creates institutional traps that hinder growth despite the gap narrowing.

An important issue in the discussion of the Soviet institutes' role is the question, why USSR, moving away from the mobilization practices of industrialization in the second half of the 1950s, did not timely and gradually move away from directive planning to market economy and did not anticipate a more effective institutional trajectory of China?

In order to answer this question, we need to pay attention to the concept of “path dependence”, analyzed in the works by P. David

[51], W. Arthur [52], integrated in new institutional economic history by D. North [53] and actualized by R.M. Nureev and Yu.V. Latov [47, pp. 11–14]. From their point of view, saving of less efficient institutes is explained by excessive transaction costs of their replacement and the difference in intertemporal preferences of economic entities.

Several important issues concerning cooperation between institutes of science and USSR public economy governance were not thoroughly discussed. For example, important thesis on decreasing institutes' efficiency in the late USSR requires additional conformations from institutional interactions between science and government.

Another important issue is what institutes of centralized planning and economy management might work in modern Russia. It requires further substantive discussion. We might assume that the program-target approach, implemented in Federal Target Programs (FTP), regional programs of territorial development, complex state programs, shows decent efficiency in the development of Russia's budgetary system. Its prototype of the late USSR period is, for example, complex programs of scientific and technological progress¹⁷. Also, the positive potential is seen in the combination of sectoral and territorial planning sections in the development strategies of macroregions¹⁸. Medium-term planning, based on development goals regularly approved by the highest

¹⁷ Since the 1970s, such programs have been developed once in 5 years and were aimed at the next 15–20 years. See: A comprehensive program of scientific and technical progress of the USSR in 1991–2010. Available at: <https://ecfor.ru/publication/kompleksnaya-programma-nauchno-tekhnicheskogo-progressa-sssr/>.

¹⁸ Implemented in “Spatial Development Strategy of Russia until 2025” (approved by the RF Government decree no. 207-p, dated February 13, 2019). Available at: <http://static.government.ru/media/files/UVAIqUfT08o60RktoOXI22JjAe7irNxc.pdf>.

legitimate authority, might become workable (even if it is incomplete)¹⁹.

Integration of processes of macroeconomic and budgetary planning is also an important sphere. In USSR (since the late 1920s), the cornerstone of the resource allocation process was the capital investment plan (not the production plan), which included planners' actual priorities [23, pp. 152–158, 103–104, 144, 313–314]. So, the planning was the key instrument of public investment policy, which currently should include costs of the formation of physical and human capitals. At the same time, structures of governance cannot implement directive regulations for the results of economic entities' work and directly allocate the bulk of resources in the sphere of market economy. In the public sector of national economy, their efforts should be focused on efficient management in the role of resource owners.

These issues play a crucial part in improving the system of strategic planning in Russia – efficient cooperation between its social entities which have an appropriate motivation.

With the increasing role of the state as a subject of the investment process, planning might become an important instrument of structural industrial policy, rationally determined not only by the criteria of economic efficiency. At the same time, the fundamentally important problem of “principal – agent” (see section 2) requires the formation of institutional mechanisms in order to stop its negative manifestations. The positive examples of other countries, which are referent to Russia (Brazil [54], China [55]) and discussed in

¹⁹ Attempts to actualize Soviet experience of five-year planning included the RF President's Order “On National Goals and Strategic Objectives of the Russian Federation through to 2024” no. 204 (available at: <http://static.kremlin.ru/media/acts/files/0001201805070038.pdf>), dated May 7, 2018, and previous 11 decrees, dated May 7, 2012.

the literature, show the situation, when elites can implement development policy. In turn, similar USSR studies may adjust DE theoretical provisions and concepts, including criteria for the effectiveness and efficiency of interaction between planning entities.

Conclusions

In this article, the historical experience of planning in the USSR is correlated with the accumulated theoretical and empirical developments, the critical analysis of the relevant areas of scientific literature is carried out, methodological issues are raised, possible areas of empirical research and improvement of economic development theories are determined.

The author defines three stages of DE evolution and its chronological borders; the current stage is characterized as neo-structuralist, actualizing the paradigm of early development economics with the reception of concepts and approaches of institutional economics²⁰. In this regard, author's periodization is different from the ones existing in the works on history of economic thought²¹. Besides, in theoretical and methodological instruments of DE the author selects the list of concepts relevant for modern Russia and models of socio-economic transformations, which had not been done in the systematic way in the literature before²².

²⁰ Interactions of DE with institutional economy and economic history were mentioned in several works, especially the ones by S.R. Khan [57, p. 61–63, 76–78], R. Boyer [58], N. Crafts [59]. However, in works, known to us, development of DE discourse was analyzed primarily through opposition of pro-market and interventionist approaches.

²¹ Especially from E. Thorbecke's work [56], where detailed characteristics of prevailing DE discourse are given by decades. Chronological borders of evolution's stages, selected by the author, are also different from the monograph written by S.R. Khan [57], which is based on the opposition of developmentalism and neo-liberalism.

²² While important ideas on this issue were expressed in the works by R.M. Nureev and Yu.V. Latov [44], V.M. Polterovich [5], V.V. Popov [34, 35].

Conducted analysis of scientific literature has the following results in relation to the key trends of DE evolution:

- Methodologically relevant research of historical planning experience in USSR was conducted in cooperation with theoretical concepts of development economics and institutional economics with empirical researches in the areas of economic history, Sovietology, and transitology.

- In DE paradigm, which emerged as an alternative to classic theories, centralized planning of economy gained theoretical legitimization and was reviewed as the key instrument of implementation of catch-up development strategies.

- Slowdown of the USSR economic dynamics in the 1970s and 1980s caused the shift of ER theorists' focus from macro-economic modeling of production factors to the analysis of the institutional environment's features.

- Last decades were marked by adjustment and update of DE theoretical foundations. Unanimous recognition was given to the priority of market methods of economic regulation, at least within upward phase of opportunistic cycle.

- Different stages of DE economics were receptive to positive influence of other areas of economic science (Russian and European Marxism, neo-schumpeterism, the theory of human capital, neo-institutionalism).

- Since the 2010s, global scientific literature shows signs of attention strengthening to problematics of planning on national and regional levels, actualization of historical experience in studying certain examples and in attempts of theoretical analysis.

- The formation of new theory on planning national and regional economy, based on DE methodological paradigm, began. This paradigm has heuristic potential for

empirical analysis of societies lagging behind in technological and institutional development.

Several important for the early DE representatives' problems were left outside research interest, reflection, and the analysis:

- Accumulation of empirical data in researches of western Sovietologists and economic historians on features of economic growth in the USSR and institutional problems, related to directive nature of planning, did not receive timely and deep theoretical assessment from DE representatives due to linearity of their world view and focus on early stages of industrialization.

- Theoretical constructions and political recommendations, coming from it, assumed the presence of adequately functioning state institutes for the implementation of the catch-up development strategy, the possibilities of its degradation were not envisioned.

- The problem of imperfection of social communication between the representatives of science and government, as well as the presence of special group interests in different planning entities having different institutional mechanisms of coordination, was poorly identified.

- The criteria of success, effectiveness, and efficiency of interaction between the institutes of science and governance in the sphere of economic planning were not clearly identified.

- Insufficient attention was paid to the analysis of the institutional reasons which caused low efficiency of cooperation between representatives of science and public authorities in the sphere of economic planning.

New areas of research indicate the following working hypotheses:

1. Effectiveness and efficiency of cooperation between institutes of science and governance decreased in the late Soviet period.

It did not allow timely addressing important issues concerning development features of basically formed industrial society.

2. Distinction between political and economic types of rationality, entities of which interact on political markets with a certain level of transactional costs, has an important methodological meaning [1; 18]. According to neo-institutional theory of public choice, political decision-making entities may, more or less, ignore scientifically-based recommendations, aimed at maximization of public welfare, and its economic policy do not meet the criteria of optimality. The example of such political market, having inefficient balance, is the cooperation between entities of economic governance in the period of the late USSR.

3. An important factor of worsening of social communication in the late Soviet period was the growing difference of discourses of analyzed planning entities. A fundamentally important constraint of state authorities was integrity of official ideology, which legitimized monopoly for political power but continued to lose public trust. Its combination with a special kind of technocratism, expressed in high expectations from the natural science knowledge development [60, pp. 39–40; 61, pp. 247, 258–260, 287], did not receive enough

insight from scientists, who claimed intellectual leadership. According to them, obstacles to effective interaction were other kinds of value-rational ideocratism (preference, for example, for the values of “democracy”, “social justice”, “economic rationality”) and technocratic scientism (preference for “economic rationality”, “mathematical optimization”, ideological restrictions). Members of scientific society barely understood mechanisms of implementation of their conclusions and recommendations, which were based on several assumptions, in political and social actions.

This article explains the usage of development economics’ instruments, enriched with concepts of new institutional economic history, as a theoretical and methodological basis for the study of empirical sources on institutional practices of centralized planning in the USSR. It, in turn, will contribute to update of theoretical basis of development economics within the policy of Russia’s catch-up modernization. The article also might be used for addressing the issue of imperfection of social communication between science and governance members; the formation of new theory of national and regional economy planning within the paradigm of the school of post-soviet institutionalism.

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