Investigating the Prospects of New Institutional Theory in the Smart Economy

Anastasiya A. Sozinova

Vyatka State University, Kirov, Russia

aa_sozinova@vyatsu.ru

Abstract. The new institutional theory is a modern trend within the framework of the neoclassical school of economic theory, which arose on the basis of old institutionalism. The article examines one of the four assumptions of the new institutional theory: the efficiency of factor markets. In this assumption, the emphasis is placed on the financial capital market, although in the conditions of building a new economy or «knowledge economy», human capital is the most important factor of production and information capital is also important factor in the context of the growth of the digital economy.

A new paradigm of socio-economic development, formed in the context of the disruption of world economic relations in the rapidly developing viral economic cycle, which is caused by the global pandemic of the coronavirus COVID-2019; as well as the growth of the digital economy is having a contradictory impact on the modern global economy. On the one hand, the digital economy removes barriers to the international exchange of goods, forms the potential for optimizing the economic activities of economic systems and opens up opportunities for entering world markets and conducting transnational business. On the other hand, the viral economic cycle has led to some de-globalization of the economy and its de-integration, which limits the sources of growth and development of the world economy, and also creates opportunities for the dominance of some participants in world economic relations over others, which leads to an increase in imbalances in the development of economic systems and inhibits the rate of development of the world economy.

Keywords: New institutional theory (neo-institutionalism) · World economy · Coronavirus · COVID-2019 · Digital economy · Paradigm of socio-economic development · Globalization · Integration · Disproportions

JEL Code: Z-21 · Z-29

1 Introduction

The ontogeny of socio-economic systems stimulates their transition to new levels of development, which are subject to new factors that aren’t taken into account within the framework of existing scientific schools as part of economic theory. The modern world economy, subject to the influence of globalization, the viral economic cycle, post-pandemic changes in the de-integration of world economic systems, is characterized by
a tendency to increase imbalances and doesn’t fit into the theoretical models of the classical and traditional institutional economic school.

In connection with the above, there is a need to form a theory that can explain the phenomena and processes occurring in the modern world economy and predict their impact, transformation in the future. One of these theories is the new institutional theory.

2 Materials and Methods

This chapter uses general scientific methods of cognition to achieve this goal: the method of analysis, synthesis, induction, deduction, formalization, etc.

The proliferation of smart technologies in Industry 4.0 is described in Belik et al. (2020), Haabazoka et al. (2019), Popkova (2019), Popkova and Gulzat (2020a), Popkova and Gulzat (2020b), Popkova and Sergi (2018), Popkova and Sergi (2019), Popkova and Sergi (2020), Popkova and Zmiyak (2019), Popkova et al. (2019), Ragulina (2019), Ragulina et al. (2019), Savelyeva et al. (2019), Sergi (2019a), Sergi et al. (2019b), Sozinova (2019), Sozinova (2018a), Sozinova (2018b), Sozinova et al (2019), Fokina et al. (2018), Zavyalova et al. (2018).

The new institutional theory is a modern trend within the framework of the neo-classical school of economic theory, which arose on the basis of the old institutionalism, the founders of which are considered Coase (1937), and Williamson was considered as an author of term (2000). Modern authors Sozinova (2018a, b, c), Popkova et al. (2018), Bondarenko and Demyanchenko (2018) and others develop the provisions of the new institutional theory.

We present the basic assumptions of the new institutional theory that are causing its problems. They arise in connection with the contradiction of the accepted theoretical assumptions with the modern realities of the economic practice of socio-economic systems Maucourant (2012) (Table 1).

| №  | New institutional theory assumptions (reasons) | Problems of the new institutional theory (contradictions) | Manifestation of problems of new institutional theory (examples) |
|----|------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|
| 1  | Efficiency of factor markets                   | The market mechanism is imperfect and «failures» are characteristic, among other things, for the markets of factors of production | Economic crises                                               |
| 2  | Limited resources of the economic system       | In the context of globalization and integration, the resources of an open economy can be replenished from the outside, clearly not measurable | International resource flows                                  |
| 3  | Institute as a set of rules and restrictions   | In practice, «double standards» are often applied, due to which institutions do not define the general «rules of the game» | Bureaucracy, corruption                                       |
| 4  | Static equilibrium, steady state of the economy | Economies are subject to change and institutions are often lagging | «Institutional traps»                                         |
Table 1 presents four assumptions of the new institutional theory, the contradictions that arise when using these assumptions and possible examples of the manifestation of problems.

3 Results

We consider «the efficiency of factor markets» in detail within the scope of the content of the study the first assumption. The essence of this assumption is that the market mechanism isn’t perfect and the problems are typical for the markets of factors of production. This aspect contradicts the assumption under study. The market mechanism must regulate the system of factors of production without the participation of the state. However, practice has shown that the crisis of the capital market, which received global coverage, has led to the impossibility of unambiguous market regulation of the system of factors of production. The global crises of 2008 and 2020 affected the economic systems so sharply that they triggered a revision of its basic conceptual provisions, which, among other things, are its assumptions and problems.

In this regard, it should be noted that the new institutional theory focuses on the financial capital market. At the same time, in the conditions of building a knowledge economy and a digital economy, human and information capital, respectively, are the most important factors of production. The main distinguishing feature of these capital markets from the financial capital market is that the key players in this market aren’t the owners of capital, but the capital itself: people and information.

The new institutional theory is a qualitative platform for studying the markets of human and information capital due to the fact that it accepts the condition of bounded rationality of economic agents. Thus, such a distinctive feature of the new institutional theory from existing scientific schools in the composition of economic theory is the basis for the possibility of a shift in emphasis towards the markets of human and information capital, which are the most relevant in the new paradigm of socio-economic development of the world economy. In this case, the function of the efficiency of human capital should seek to maximize labor productivity, and the function of the efficiency of information capital should seek to maximize its digitalization. We believe that this condition is fundamentally new conditions within the framework of a new institutional theory, which can lead to the emergence of new directions of institutional theory.

We consider the correlation between the development of economic systems and the transformation of markets for human and information capital. As objects for research, we will select quantitative indicators of the economy taking into account the World Bank approach (GDP growth per capita) and indicators of the Knowledge Economy (innovation index, WIPO; human development index, NDP), indicators of Industry 4.0 (digital competitiveness index, IMD; global competitiveness 4.0, WEF), Popkova and Gulzat (2020a).

In connection with the specifics of the analysis of the prospects of the new institutional theory in the context of the new paradigm of socio-economic development, we consider the data from the 2019–2024 time periods. The data are presented in Table 2.
The results of a comprehensive analysis carried out using the MS Excel Data Analysis tool are presented in Table 3.

As can be seen from Table 3, GDP per capita, as an indicator of the level of economic development of countries, classifying countries into advanced (core countries) and lagging (periphery countries), showed that in the new paradigm of socio-economic development and growth of the digital economy, the development of the world economy is influenced by human and information capital. These factors aren’t emphasized within the framework of the new institutional theory, which opens up the new directions of research.

| Index                                      | Years          | Advanced countries (<«core countries») | Russia            |
|--------------------------------------------|----------------|----------------------------------------|-------------------|
|                                            |                | The UK                                  | Canada            |
| GDP per capita, USD                        | 2019           | 38,965.146                              | 11,558.835        |
|                                            | 2020 (forecast)| 39,932.528                              | 11,980.732        |
|                                            | 2021 (forecast)| 41,026.810                              | 12,490.290        |
|                                            | 2022 (forecast)| 42,129.781                              | 12,931.839        |
|                                            | 2023 (forecast)| 42,761.730                              | 13,255.130        |
|                                            | 2024 (forecast)| 43,403.150                              | 13,586.510        |
| Human Development Index, shares of 1 (NDP)| 2019           | 0.920                                   | 0.824             |
|                                            | 2020 (forecast)| 0.943                                   | 0.840             |
|                                            | 2021 (forecast)| 0.967                                   | 0.857             |
|                                            | 2022 (forecast)| 0.991                                   | 0.874             |
|                                            | 2023 (forecast)| 1.016                                   | 0.892             |
|                                            | 2024 (forecast)| 1.044                                   | 0.910             |
| Innovation Index, scores 1–100 (WIPO)     | 2019           | 61.30                                   | 37.62             |
|                                            | 2020 (forecast)| 62.83                                   | 38.37             |
|                                            | 2021 (forecast)| 64.40                                   | 39.14             |
|                                            | 2022 (forecast)| 66.01                                   | 39.92             |
|                                            | 2023 (forecast)| 67.66                                   | 40.72             |
|                                            | 2024 (forecast)| 69.59                                   | 41.54             |
| Digital Competitiveness Index, scores 1–100 (IMD)| 2019     | 88.691                                  | 70.406            |
|                                            | 2020 (forecast)| 90.908                                  | 71.814            |
|                                            | 2021 (forecast)| 93.181                                  | 73.250            |
|                                            | 2022 (forecast)| 95.511                                  | 74.715            |
|                                            | 2023 (forecast)| 97.898                                  | 76.210            |
|                                            | 2024 (forecast)| 100.688                                 | 77.734            |
| Global Competitiveness Index 4.0, scores 1–100 (WEF)| 2019 | 81.2                                    | 66.7              |
|                                            | 2020 (forecast)| 83.2                                    | 68                |
|                                            | 2021 (forecast)| 85.3                                    | 69.4              |
|                                            | 2022 (forecast)| 87.4                                    | 70.8              |
|                                            | 2023 (forecast)| 89.6                                    | 72.2              |
|                                            | 2024 (forecast)| 92.2                                    | 73.6              |
Thus, it can be concluded that the new institutional theory is an «ideal platform», which describes modern economics. It’s as close as possible to economic reality, despite the fact that its basic attitudes don’t quite correspond to the current situation. Moreover, the new institutional theory is able to consider, within the framework of its theory, other forms of capital, besides financial, which may subsequently grow into whole areas of the economic school.

References: (2015), Eggertsson (2013), Gray (2016), Ménard and Shirley (2014), Popkova et al. (2016a), Popkova et al. (2016b), Popkova (2019), Sozinova (2019), Raja (2014), Richter (2016), Tamanaha (2015), Staden and Bruce (2015), Data set “Big data of the modern world economy: digital platform for intelligent analytics (2020)” are given in list but not cited in text. Please cite in text or delete them from list.

Table 3. Results of a comprehensive analysis of the dynamics of the development of economic systems and the transformation of markets for human and information capital in 2019–2024

| Indicators | Countries | Trend, % | Correlation (R²), % |
|------------|-----------|----------|---------------------|
| Human development index | Innovation Index | Digital Competitiveness Index | Global Competitiveness Index 4.0 |
| GDP per capita, USD | UK | 11.38 | 97.97 | 97.79 | 97.80 | 97.08 |
| | Canada | 10.91 | 98.02 | 97.99 | 98.0 | 97.36 |
| | Russia | 17.54 | 98.91 | 99.0 | 99.04 | 99.17 |

Source: calculated by the author.

4 Conclusion

Thus, it can be concluded that the new institutional theory is an «ideal platform», which describes modern economics. It’s as close as possible to economic reality, despite the fact that its basic attitudes don’t quite correspond to the current situation. Moreover, the new institutional theory is able to consider, within the framework of its theory, other forms of capital, besides financial, which may subsequently grow into whole areas of the economic school.

References: (2015), Eggertsson (2013), Gray (2016), Ménard and Shirley (2014), Popkova et al. (2016a), Popkova et al. (2016b), Popkova (2019), Sozinova (2019), Raja (2014), Richter (2016), Tamanaha (2015), Staden and Bruce (2015), Data set “Big data of the modern world economy: digital platform for intelligent analytics (2020)” are given in list but not cited in text. Please cite in text or delete them from list. —

Belik, E.B., Petrenko, E.S., Pisarev, G.A., Karpova, A.A.: Influence of technological revolution in the sphere of digital technologies on the modern entrepreneurship. In: Lecture Notes in Networks and Systems, vol. 91, pp. 239–246 (2020)

Bondarenko, V.A., Demyanchenko N.V.: The Development of the Modern Russian Economy Under the Conditions of Crisis and Import Substitution. Economic and Legal Foundations of Modern Russian Society: A New Institutional Theory (2018)

Bryant, C.E., Javalgi, R.G.: Global Economic integration in developing countries: the role of corruption and human capital investment. J. Bus. Ethics 136(3), 437–450 (2016)

Caballero, G., Soto-Oñate, D.: The diversity and rapprochement of theories of institutional change: original institutionalism and new institutional economics. J. Econ. Issues 49(4), 947–977 (2015)

Coase, R.H.: The nature of the firm. Economica 4(16), 386–405 (1937)

Eggertsson, T.: Quick guide to New Institutional Economics. J. Comp. Econ. 41(1), 1–5 (2013)

Haabazoka, L., Popkova, E.G., Rugulina, Y.V.: Africa 4.0 as a perspective scenario for neo-industrialization in the 21st Century. Afr. J. Econ. Sustain. Dev. 2(2), 20–38 (2019)
Gray, H.: Access orders and the ‘new’ new institutional economics of development. Dev. Change 47(1), 51–75 (2016)
Klinov, V.G.: World economy long cycle in XXI century. World Econ. Int. Relat. 60(12), 5–16 (2016)
Maucourant, J.: New institutional economics and history. J. Econ. Issues 46(1), 193–207 (2012)
Ménard, C., Shirley, M.M.: The future of new institutional economics: from early intuitions to a new paradigm? J. Inst. Econ. 10(4), 541–565 (2014)
Popkova, E., Chechinak, O., Sultanova, A.: Structural and logical model of contemporary global economic system. Eur. Res. Stud. J. 19(2), 218–227 (2016)
Popkova, E., Meshikova, S., Karpunina, E., Karpushko, E., Karpushko, M.: Developing countries as new growth poles of post-crisis global economy. Contemp. Econ. 10(2), 175–186 (2016)
Popkova, E.G.: Preconditions of formation and development of industry 4.0 in the conditions of knowledge economy. In: Studies in Systems, Decision and Control, vol. 169, no. 1, pp. 65–72 (2019)
Popkova, E.G., Sergi, B.S.: Human Capital and AI in Industry 4.0. Convergence and divergence in social entrepreneurship in Russia, J. Intellect. Capital (2020, in press)
Popkova, E.G., Gulzat, K.: Technological revolution in the 21st century: digital society vs. artificial intelligence. In: Lecture Notes in Networks and Systems, vol. 91, pp. 339–345 (2020a)
Popkova, E.G., Zmiyak, K.V.: Priorities of training of digital personnel for industry 4.0: social competencies vs technical competencies. Horiz. 27(3–4), 138–144 (2019)
Popkova, E.G., Litvinova, T.N., Natsubidze, A.S.: Economic and Legal Foundations of the Federative Structure of Modern Russia’s Economic System. Economic and Legal Foundations of Modern Russian Society: a New Institutional Theory (2018)
Popkova, E.G., Sergi, B.S.: Will industry 4.0 and other innovations impact Russia’s development? In: Sergi, B.S. (ed.) Exploring the Future of Russia’s Economy and Markets: Towards Sustainable Economic Development, pp. 51–68. Emerald Publishing Limited, Bingley (2018)
Popkova, E.G., Sergi, B.S. (eds.): Digital Economy: Complexity and Variety vs. Rationality. Springer International Publishing (2019)
Popkova E.G., Sozinova A.A., Menshchikova V.I.: Managing the adaptation of modern society to the industry 4.0 based on information waves and impulses. Voprosy teorii i praktiki zhurnalistik = Theoret. Pract. Issues Journalism 8(2), 438–446 (2019). (In Russian). https://doi.org/10.17150/2308-6203.2019.8(2)
Ragulina, Y.V.: Priorities of development of industry 4.0 in modern economic systems with different progress in formation of knowledge economy. In: Studies in Systems, Decision and Control, vol. 169, pp. 167–174 (2019)
Ragulina, Y.V., Alekseev, A.N., Strizhkina, I.V., Tumanov, A.I.: Methodology of criterial evaluation of consequences of the industrial revolution of the 21st century. In: Studies in Systems, Decision and Control, vol. 169, pp. 235–244 (2019)
Savelyeva, N.K., Kuklin, A.V., Lapteva, I.P., Malsheva, N.V.: The investment attractiveness of a regional market of educational services as the basis of its global competitiveness in industry 4.0. Horiz. 27(3–4), 239–244 (2019)
Sergi, B.S. (ed.): Tech, Smart Cities, and Regional Development in Contemporary Russia. Emerald Publishing Limited, Bingley (2019a)
Sergi, B.S., Popkova, E.G., Bogoviz, A.V., Litvinova, T.N.: Understanding Industry 4.0: AI, the Internet of Things, and the Future of Work. Emerald Publishing Limited, Bingley (2019b)
Sozinova, A.A.: Causal connections of formation of industry 4.0 from the positions of the global economy. In: Studies in Systems, Decision and Control, vol. 169, pp. 131–134 (2019)
Sozinova, A.A.: Marketing concept of managing the reorganization of entrepreneurial structures using the latest information technologies. Qual. Access Success 19(S2), 118–122 (2018)
Sozinova, A.A.: Effectiveness or reorganization: application of information technologies in solving marketing problems of modern companies. Espacios 39(28) (2018b)
Sozinova, A.A.: Conceptual provisions of a new institutional theory. Economic and Legal Foundations of Modern Russian Society: a New Institutional Theory (2018c)
Sozinova, A.A., Nabokikh, A.A., Ryattel, A.V., Sanovich, M.A.: Analysis of “underdevelopment whirlpools” as a tool of managing the regional market of education in the conditions of Industry 4.0. Horiz. 27(3–4), 173–179 (2019)
Fokina, O.V., Fufacheva, L.A., Sozinova, A.A., Sysolyatin, A.V., Bulychev, L.L.: Information and communication technologies as a new vector of development. Espacios 39(28), 5 (2018)
Zavyalova, E.B., Studenikin, N.V., Starikova, E.A.: Business participation in implementation of socially oriented sustainable development goals in countries of Central Asia and the Caucasus region. Central Asia Caucasus 19(2), 56–63 (2018)
Raja, P.: Social capital and sustainable development in the framework of new institutional economics. Pertanika J. Soc. Sci. Humanitat. 22(1), 97–110 (2014)
Richter, R.: Whither ‘new institutional economics’? Eur. Bus. Organ. Law Rev. 17(4), 541–554 (2016)
Tamanaha, B.Z.: The knowledge and policy limits of new institutional economics on development. J. Econ. Issues 49(1), 89–109 (2015)
Von Staden, P., Bruce, K.: Original and new institutional economics: Brethren rather than foes? Lessons from the sociocognitive turn in “late” Douglass north. J. Econ. Issues 49(1), 111–125 (2015)
Williamson, O.E.: The new institutional economics: taking stock, looking ahead. J. Econ. Lit. 38 (3), 595–613 (2000)
Data set “Big data of the modern world economy: digital platform for intelligent analytics – 2020” (Electronic resource). Institute of Scientific Communications. https://www.archilab.online/data2/data-set-po-mirovoj-ekonomike