The Role of Institutional Determinants in Overcoming the Tendency of Deindustrialization of the National Economy

OLENA O. TSYPLITSKA, MARIIA YU. ZAVGORODNIA

The purpose of the research is the detection of institutional determinants and substantiation of their decisive role in the course of industry modernization that is the essential condition for national economic growth. The study relies on the logic and historical method to reveal the peculiarities of best practices of the world countries with different level of development; statistical analysis method to determine the trends of economic and institutional performance changes; methods of comparison and generalization etc. Summarizing the research, it was proved that Ukrainian manufacturing sector made still insignificant contribution, oppositely its sensitivity to economic crises caused significant imbalances in economy. However, these are state organizations and political institutions that considerably affect the revitalization of upgrading processes in industrial sector through market failure mitigation. The study found that the lack of strategic vision and long-term industrial development planning was the main institutional obstacle for activation of economic development of Ukraine. To overcome the trend of deindustrialization it was proposed to provide effective institutional interrelations between the state and stakeholders, namely to develop institutional mechanisms of modernization, which will eventually contribute to: diversification of the industrial structure of the economy towards increasing the share of medium and high-tech processing industries and raising the complexity of products; improvement of relations between research centers and enterprises, especially regarding innovation activities, commercialization of existing scientific developments; imports of scarce cutting-edge technologies.

Keywords: deindustrialization, industrial modernization, institutional framework, state industrial policy, economic growth.

Abbreviations:
GDP – gross domestic product;
PPP – purchasing power parity;

UDC 330.837:65.011.55 JEL Codes: L16, O14, O25, O43

Introduction. The relevance of national economy industrial sector modernization is verified by the requirements of survival in condition of local and global competition amplification and technological superiority of individual countries following the innovation path of development as well as by absence of alternatives for industrial sector potential in economic growth acceleration in the long run. The solution of this issue requires significant government support and incentivization of production technologies modernization in terms of Fourth industrial revolution deployment. The institutional component is an important element of such support as it allows for forming and development of efficient institutional system

https://doi.org/10.21272/mer.2021.93.11

1 Olena O. Tsyplitska, Dr. (Economics), Associate Professor, Department of Industrial Policy, Senior Research Officer, State Organization “Institute for Economics and Forecasting of National Academy of Sciences of Ukraine”, National Academy of Sciences of Ukraine;
The Role of Institutional Determinants in Overcoming the Trend of Deindustrialization of the National Economy

(formal rules and norms, motivation system, restrictions and enforcement etc.), its organic unity with informal institutions and ideological foundations of state industrial policy. It would result in favourable institutional space for industrial modernization.

**Problem statement.** The investigations of industrial development issues and its institutional foundations have been reported in the publications of foreign and domestic scholars at the end of XX\(^\text{th}\) century and have been actualized in the recent decade of XXI\(^\text{st}\) century due to search of new sources of economic growth. In particular, the following scholars can be mentioned: O. Alymov, O. Amosha, V. Vyshnevskyi, V. Heyets, A. Grytsenko, L. Deineko, E. Carayannis, Yu. Kindzerskyi, G. Kleiner, V. Polanyi, D. Rodrik, R. Inglehart.

Despite the significant contribution of Ukrainian and foreign researchers it can be mentioned that institutional sources of deindustrialization are insufficiently studied which actualizes this investigation.

**The purpose of the research** is the detection of institutional determinants and substantiation of their decisive role in the course of industry modernization that is the essential condition for national economic growth.

**Results of the research.** The processes of deindustrialization distributed among world countries in the recent decade have sparked a wave of studies focused on industrial modernization. O. Alymov & O. Amosha indicates that “economic modernization” is the intensification of economic recovery process which can be reached at the expense of diversification and labour differentiation deepening, energy equipment renovation, transformation of the science into productive (economic) force, and rational production organization [1]. Its essence is disclosed by structural, technological and institutional changes at the national economy aimed at increasing its international competitiveness.

Y. Petrovich [2] considers the modernization as a change, improvement of industrial company activity according to contemporary requirements of market economy in dynamic conditions of science and technology progress.

The EU scholars define the industrial modernization as a process of transformation and upgrading directed on provision of the European manufacturing competitiveness in the environment of increasing global competition [3]. It includes both actions and resources aimed at development and implementation of new technologies like digital ones, new business models, as well as innovations in services to create innovative products and processes.

The structural development of economy has also played its role in modernization and economic growth of various countries (Table 1).

<table>
<thead>
<tr>
<th>Economic sector</th>
<th>Poland</th>
<th>USA</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>3.2</td>
<td>2.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Industry</td>
<td>24.4</td>
<td>24.6</td>
<td>15.9</td>
</tr>
<tr>
<td>Services*</td>
<td>72.4</td>
<td>72.7</td>
<td>83.1</td>
</tr>
</tbody>
</table>

* Services also include construction

The wide-sense concept of modernization argues that well-developed economies should downsize the agricultural sector and boost the industrial potential [7]. According to Table 1, the Ukraine’s economy structure is approaching to more developed economies of USA and Poland, however the share of agriculture is still high. Moreover, the trend of
Deindustrialization can be clearly observed, and it causes the changes in market conditions which spur an increase in agriculture share. It should be also mentioned that industrial modernization in Poland took place in conditions of active monetary policy aimed at revaluation of national currency. It led to the unprofitability of raw material orientation of exported industrial products. Thus, in the created favorable conditions the industrial sector restructuring stimulated to high value-added production and overcoming the raw material specialization.

The orientation of Ukrainian economy structure on external markets’ needs, the lack of resources and long-term interests to struggle for new market segments through technological development, of manufacturing, creating and support of new industries predetermined a mostly insignificant contribution of manufacturing to rates of economic growth, and its sensitivity to economic crises – a significantly greater contribution to the rate of economic decline (Fig. 1).

During the period of 2010-2019 the contribution of manufacturing to the real GDP growth rates was reported from -0.3 to 0.6% (2010-2012 years, 2016-2019 years), and from -1.7 to -1% in GDP decline rates (2013-2015 years). Moreover, the economic decline in 2013 was caused by the industrial recession (-1.2 %). The recovered dynamics of economic growth was driven by other economic activities like services, nevertheless a contribution of manufacturing is paltry.

The improvement of industrial development performance in different countries was provided by the factors related to institutional level of development maintenance, so according to V. Heyets [8], economic growth should be ensured by “institutional reorganization” of the whole economy and of industrial sector, in particular. Understanding the experience of industrial policy broadens the vision of the principles of its formation in different economic and institutional contexts and points to areas in which the coordination and synchronization of its programs and measures should be improved.
First of all, global practice shows that modernization of the industrial sector involves broad diversification, including the preservation of low-tech sectors instead of their complete replacement by high-tech ones. The U.S. experience has shown that due to the reduction of the low-tech sector, almost the entire supply chain for shoe manufacturing has been lost. And the relocation of thin film and semiconductor production from the U.S. to Southeast Asia is now one of the main obstacles to the development of solar energy, where these products are key components [9]. In the EU, the production of protective textiles and ultra-resistant rails became an example of specialization in low-tech industries, which has been maintained and provides a high competitiveness and a stable share of exports.

Secondly, modernization can involve increasing the complexity of production as a certain guarantee of the sustainability of the manufacturing sector and produced high added value in it. Behind the Harvard Growth Lab's index of economic complexity (Country & Product Complexity Rankings), in 2018 the top 10 countries with high GDP per capita or an active growth phase included Austria, the Czech Republic, Germany, Japan, the Republic of Korea, Singapore, Slovenia, Hungary, Sweden, and Switzerland. The index reflects the complexity of the products produced and the share of their exports. Ukraine is in 44th place in the ranking, when in 2003 it occupied the 29th place, and in 2016 it was in 50th place. As of 2018, Belarus ranked 29th, Russia 64th, and Poland 23rd place. China has risen from 39th to 18th place since 2000, and the U.S. has fallen from 6th to 11th place [10].

Third, the innovative activity of firms is an integral part of industrial modernization and ensuring long-term growth trends. The gap between European and U.S. companies in the innovation activity of industrial enterprises has become the subject of close attention of EU policymakers, which has actually turned industrial policy into R&D policy. Indeed, a comparison of R&D intensity, which is measured through the share of R&D expenditures in the value added of manufacturing companies, proves that countries that invest more in R&D achieve a higher level of industrial development, such as the United States and Japan. At the same time, the sectoral structure of the manufacturing industry does not play a decisive role in ensuring the intensity of innovative development [9]. Technological leadership and product quality become one of the main factors to protect both developed and transformational economies (Ukraine) from competition from the emerging market economies of Brazil, India and China, which are successfully involved in the process of "catch-up" development. Given the structural modernization in these countries, competitive pressure is not limited to low-tech industries, it also appears in high-tech industries.

Fourth, the agglomeration effects in the industrial sector demonstrated by the European countries – Czechia, Slovakia, Hungary, Poland, Slovenia, along with Germany and Austria, together with the division of labour facilitate the structural and technological modernization, but only in the countries involved. For the EU, these effects have a divergent effect and have increased significantly with the launch of Single Market. Ukraine is not sufficiently involved in such agglomerations. It continues to play the role of the European periphery, and to overcome this situation it is necessary to nurture a highly skilled workforce and restructure the industrial sector.

Ukraine, which is oriented on the European experience of the industrial policy development and implementation, as well as obliged to adhere to the requirements established by international agreements, is forced to build an industrial policy in extremely contradictory conditions [11]. On the one hand, the possibilities of traditional (for the early industrial policy of the independent state) sectoral support have narrowed considerably. On the other hand, the Ukrainian industrial sector, unprepared financially and institutionally, was left in the global
space one on one with global competitors. As of October 2021, Ukraine does not have an approved strategy for the industrial development, which was being prepared for adoption in 2018.

Today one of the urgent tasks in Ukraine relates to the creation of infrastructure for innovative development of industries, which requires appropriate coordination and support from the state administration bodies. The activities of the former Ministry of Industrial Policy in previous years did not push the industrial sector towards effective modernization transformations. However, its liquidation in 2014 and the transfer of its functions and powers to the Ministry of Economic Development and Trade of Ukraine (as of 2021 – Ministry of Economy of Ukraine) did not improve the situation. Institutional support for the activities of the Ministry was represented by the Reform Support Team, whose key areas of activity were "horizontal" tools: public administration reform, privatization and reform of state enterprises, Prozorro.Prodazhi, corporate governance reform, improving the business climate, deregulation, improving position in Doing Business, smart specialization and innovation, reform of international technical assistance and public-private partnership [12]. As for the effectiveness of the Ministry of Economy in industrial development provision, the incomplete implementation of programs, underfunding, duplication of measures and activities has become the systematic problems. In 2020 the creation of the Ministry for Strategic Industries of Ukraine was an attempt to meet the requests of the industrial sector and streamline the processes of industrial policy formation. However, the results of its activities cannot be objectively assessed yet.

On the other hand, the requirements established by Association Agreement between the European Union and Ukraine become the push for gradual industrial modernization. In particular, it concerns the institutional consolidation of industrial production technical regulation norms through approval of technical regulations, entrepreneurship deregulation, exports support and a set of some other initiatives and measures, implemented in 2016-2020 years. Thus, together with financial instruments, monetary and fiscal regulation the institutional provision has become an important determinant of reindustrialization and modernization of Ukrainian economy. The comparison of Spain, Turkey and Morocco, which were in approximately the same economic condition in 1960 (in terms of GDP per capita), and which formed different development trajectories over the next 60 years, despite some similarities indicators of their industrial development, is indicative example of the importance of the quality of institutional environment for industrial development. In Ukraine, the GDP per capita was similar to that of Turkey in 1988, but Turkey doubled its value in 1990 (Table 2).

### Table 2

Industrial development performance of Ukraine and other countries [13]

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Spain</th>
<th>Morocco</th>
<th>Turkey</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita, PPP, US dollars, 1990</td>
<td>13 661</td>
<td>2 549</td>
<td>8 517</td>
<td>7 305</td>
</tr>
<tr>
<td>GDP per capita, PPP, US dollars, 2019</td>
<td>42 195</td>
<td>7 826</td>
<td>28 134</td>
<td>13 341</td>
</tr>
<tr>
<td>Share of industry (including construction) in GDP, %, 2019</td>
<td>20.2</td>
<td>26</td>
<td>27.7</td>
<td>22.6</td>
</tr>
<tr>
<td>Share of manufacturing in GDP, % 2019</td>
<td>11</td>
<td>15</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Share of medium and high-technology products in manufacturing, %, 2018</td>
<td>40</td>
<td>34</td>
<td>32</td>
<td>27</td>
</tr>
<tr>
<td>Share of medium and high-technology products in manufacturing exports, %, 2018</td>
<td>55</td>
<td>58</td>
<td>44</td>
<td>35</td>
</tr>
</tbody>
</table>
Between 1990 and 2019, Ukraine increased its GDP per capita at PPP only by 1.8 times, while Spain, Morocco and Turkey tripled the performance. At the same time, Spain has the highest share of medium- and high-tech products in the manufacturing, and Morocco has the highest share of medium- and high-tech products in the export industry. However, the complexity of products manufactured in these countries differs and to some extent reflects the differences in their industrial development: in 2018, Spain ranked 32nd in the index of product complexity, Turkey – 40th place, and Morocco – 91st place [10].

Therefore, the explanation of the success of some countries and the backwardness of others lies outside the statistical indicators. If we look at such institutional factors as the state system, the level of economic liberalization, the innovative orientation of industrial policy, it becomes clear that the transition to democratic development together with market liberalization in Spain and Turkey provided these countries with higher growth rates than Morocco. Turkey has also encouraged innovation and decentralized technology borrowing, which has led to high growth at the beginning of the XXI century. Market liberalization has attracted investment, which became the basis for economic growth in Spain in the 1980s and 2000s, in Turkey – in 2005-2008, in Morocco – in the early 2000s, and in Ukraine – in 2005-2007. Morocco at the beginning of the second decade of the XXI century remains the same “progressive monarchy” as in the 1960s, and the gap with world production and consumption levels is increasing every year [14].

Comparative analysis with foreign countries including neighbor countries suggests the increasing gap in economic and technological development levels due to weak industrial prosperity. Hence there is the urgent need for the immediate development of the national manufacturing sector. According to UNCTAD data, more than 100 countries, which account for 90 % of world GDP, attracted national investment through industrial policy, which served as both a basic matrix for investors and a roadmap for return-on-investment forecasting [15]. Such a policy had both common and individual features. Some of its elements can be used as benchmarking, but “there is no single pattern for modernity, development, democracy and cannot be, but all countries and peoples are able to offer and implement their own paths of development” [16]. We cannot ignore the fact that modern contours of development were created in Western European cities and continued to be reproduced on the periphery and in other countries, which became the context of the contemporary understanding of modernization. But the current institutional structure of the leading countries is nothing more than a promising reference point for developing countries. The congruent institutional environment required to overcome the tendency of industrialization is associated with the quality of the state power institution. Its expert’s estimations are provided by the World Bank (Fig. 2), the WEF (under the Global Competitiveness Index) etc. (see Table 3).

Figure 2 demonstrates three stages of governance performance change in Ukraine. First (1996-2004) was the period of indicators convergence, when the control of corruption, rule of law and government effectiveness improved, and at the same time the worsening of political stability, voice and accountability, and regulatory quality could be observed. The second stage (2005-2013) is both an arc-shaped and declining dynamics of all indicators besides government effectiveness. The third stage (2014-2020) is a growing dynamic trend of all indicators, besides government effectiveness, regulatory quality, and control of corruption, which started worsening 2020. Thus, Ukraine fell into a kind of trap of low government efficiency, when for 25 years none of the governments has achieved an increase in the values of at least one indicator close to 60 points.

In terms of the quality of the transition, Ukraine is among the countries with the lowest
rates, in particular, in Belarus this figure is 5.43, in Russia 5.0, in Poland 6.81, the highest in Cyprus – 7.68 points. The components of the indicator in Ukraine reported the highest level is in inclusiveness (6.21) and greening of the economy (5.87).

Table 3

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of transition economy, points (10 = max)</td>
<td>-</td>
<td>4.72</td>
<td>4.75</td>
<td>4.75</td>
</tr>
<tr>
<td>Institutions (in Global Competitiveness Index), rank / number of countries</td>
<td>129/138</td>
<td>118/137</td>
<td>110/140</td>
<td>104/141</td>
</tr>
<tr>
<td>including</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social capital, rank / number of countries</td>
<td>-</td>
<td>-</td>
<td>107/140</td>
<td>118/141</td>
</tr>
<tr>
<td>Property rights, rank / number of countries</td>
<td>131/138</td>
<td>128/137</td>
<td>129/140</td>
<td>109/141</td>
</tr>
<tr>
<td>Corporate governance, rank / number of countries</td>
<td>121/138</td>
<td>-</td>
<td>-</td>
<td>91/141</td>
</tr>
<tr>
<td>Future orientation of government, rank / number of countries</td>
<td>-</td>
<td>-</td>
<td>115/140</td>
<td>94/141</td>
</tr>
<tr>
<td>Transparency, rank / number of countries</td>
<td>-</td>
<td>-</td>
<td>109/140</td>
<td>104/141</td>
</tr>
<tr>
<td>State of cluster development, rank / number of countries</td>
<td>125/138</td>
<td>108/137</td>
<td>106/140</td>
<td>98/141</td>
</tr>
<tr>
<td>Value chain breadth, rank / number of countries</td>
<td>97/138</td>
<td>94/137</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Research institutions prominence, rank / number of countries</td>
<td>50/138</td>
<td>60/137</td>
<td>44/140</td>
<td>44/141</td>
</tr>
<tr>
<td>Democracy index, points (10 = max)</td>
<td>5.70</td>
<td>5.69</td>
<td>5.69</td>
<td>5.90</td>
</tr>
</tbody>
</table>

The country’s dynamic in WEF’s ranking of Global Competitiveness Index and its components shows the gradual improvement of institutional issues (moving from 129 to 104th place during 2016-2019). Due to the change in the calculation methodology, it is only possible
to track properly the dynamics of three indicators: property rights, the research institutions
prominence and the state of cluster development, which has increased since 2016. However,
the social capital rank has significantly deteriorated (from 107 to 118th place). This indicates
the deterioration in the civil society capacity. Among other problems there are corporate
governance inefficiency, government shortsightedness and corruption.

The democracy index shows very slow development of democracy institutions – during
four years Ukraine has increased the indicator by only 0.2 points. Democracy and
modernization are closely linked in many studies. In particular, E. Carayannis & D. Campbell
[21], in their investigation consider that “quality” of democracy depends on knowledge base:
the democracy achievements and knowledge and innovation progress show mutual
dependency. Inglehart R. confirms that for the democracy development it is necessary to
express the culture of society in a number of values that contribute to the assimilation of
societal democratic foundations [22].

Conclusions and prospects of further research. In comparison with other
transformational economies, the national economy of Ukraine demonstrates a tendency toward
deindustrialization. The analysis of the contribution of economic activities to economic growth
in 2010-2019 emphasized their high sensitivity to the development of industrial production.
The intensity of industrialization in Ukraine is lower than in neighboring countries; and
industrial productivity has hardly changed during the years of independence against the
background of its multiple growth in newly industrialized economies and in EU countries.

This necessitates the concentration of state economic policy to ensure the revival and
modernization in industries possessing innovation potential for economic growth. Institutional
factors, in particular the nature of state industrial policy, will play thus an important role.

Global practice demonstrates that successful modernization of the industrial sector should
include such measures as: deepening diversification while maintaining low-tech sectors of
industry; increasing the complexity of the products produced; ensuring innovation activity and
agglomeration effects, which require an appropriate cluster policy.

The imperfection of the institutional environment for the Ukrainian industry development
comes from the absence of adequate state strategic planning and low institutional capacity of
the state to implement industrial policy. The Association Agreement between Ukraine and the
EU provided the basis for institutional changes in the industrial sector, but their slow
implementation and first results have not yet ensured positive shifts.

Subsequent research will focus on the problems of strategic management of industrial
development in the context of global instability.

References
[The first stage of modernization of Ukraine's economy: experience and problems]. Liasenko V. I.
(Eds.). Zaporozhye: CPU, p. 798.
pidvyshchennya yih tehnichnogo rivnya i efektyvnosti funkshionuvannya [Modernization of
industrial enterprises as an important prerequisite for improving their technical level and efficiency].
3. Towards better monitoring of innovation strength, regional specialisation and industrial
Роль інституційних чинників в подоланні тенденції деіндустріалізації національної економіки

ОЛЕНА ОЛЕКСАНДРІВНА ЦИПЛІЦЬКА*,
МАРИЯ ЮРІЇВНА ЗАВГОРОДНЯ**

*доктор економічних наук, доцент, старший науковий співробітник відділу промислової політики Державної установи «Інститут економіки та прогнозування Національної академії наук України», вул. Панаса Мирного, 26, м. Київ, 01011, Україна
tел.: 00-380-442-54-33-91, e-mail: o.liakhovetz@gmail.com

**кандидат економічних наук, науковий співробітник відділу промислової політики Державної установи «Інститут економіки та прогнозування Національної академії наук України», вул. Панаса Мирного, 26, м. Київ, 01011, Україна
tел.: 00-380-95-0124751, e-mail: sv_pet@ukr.net

Метою дослідження є виявлення інституційних чинників та обґрунтування їх визначальної ролі в процесі модернізації промисловості, що постає необхідною умовою зростання національної економіки. В дослідженні використано логіко-історичний метод для виявлення особливостей передового досвіду країн світу із різним ступенем розвитку; методи статистичного аналізу для визначення тенденцій зміни економічних та інституційних показників; методи порівняння та узагальнення тощо. В дослідженні доведено, що внесок переробної промисловості України в темпи економічного зростання досі невисокий, а її чутливість до економічних криз спричинює значні дисбаланси в економіці. Виявлено, що державні інституції та політичні інститути значною мірою впливають на появлення модернізаційних процесів в промисловому секторі за рахунок позем'янення ринкових приводів. В ході дослідження з’ясовано, що основною інституційною перешкодою для активізації промислового розвитку в Україні є відсутність стратегічного бачення та планування промислового розвитку національної економіки. Для подолання тенденції деіндустріалізації запропоновано забезпечити ефективні інституційні взаємозв’язки між державою та стейкхолдерами, а саме розбудувати інституційні механізми модернізації, які в підсумку сприятимуть: диверсифікації промислової структури економіки в бік збільшення частки середньо- та високотехнологічних галузей переробної промисловості та підвищення складності продукції; удосконаленню зв’язків між науковими центрами та підприємствами, у тому числі в частині інноваційної діяльності, комерціалізації існуючих наукових розробок; імпорту дефіцитних новітніх технологій.

Ключові слова: деіндустріалізація, промислова модернізація, інституційний механізм, державна промислова політика, економічне зростання.

JEL Codes: L16, O14, O25, O43

Language of the article: English