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INDUSTRIAL POLICY IN UKRAINE: MECHANISMS AND NEW AGENDA FOR 4.0 DIGITAL ECONOMY

Abstract. Article discusses the development of industrial policy of Ukraine since 1991. The paper assesses the selected industry support mechanisms and their impacts on industrial development of the country. And also addresses the new agenda for modern industrial policy including Industry 4.0 and digitization of the economy. As a result of the study, it is concluded that current industrial policy of Ukraine lacks the strategical aspect, isn't reflected in corresponding documents of the government and does not have an appropriate level of coordination between different state bodies.

Key words: industrial policy, mechanisms, digital economy, Ukraine, industry support.

Анотація. Дана стаття вивчає розвиток промислової політики України з 1991 року. В роботі оцінюються обрані механізми підтримки індустрії та їх вплив на промисловий розвиток країни. А також розглядається новий порядок денний сучасної промислової політики, включаючи Індустрію 4.0 і цифровізацію економіки. В результаті дослідження робиться висновок про те, що поточна промислова політика України позбавлена стратегічного аспекту, не відображена у відповідних урядових документах і не має належного рівня координації між різними державними органами.

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Ключові слова: промислова політика, механізми, цифрова економіка, Україна, галузева підтримка.

Анотація. Данная стаття изучает развитие промышленной политики Украины с 1991 года. В работе оцениваются избранные механизмы поддержки индустрии и их влияние на промышленное развитие страны. А также рассматривается новая повестка дня современной промышленной политики, включая Индустрию 4.0 и цифровизацию экономики. В результате исследования делается вывод о том, что нынешняя промышленная политика Украины лишена стратегического аспекта, не отражена в соответствующих правительственных документах и не имеет должного уровня координации между различными государственными органами.

Ключевые слова: промышленная политика, механизмы, цифровая экономика, Украина, поддержка промышленности.

1. Introduction

Reforms in the Ukrainian economy are counteracted by opportunistic behavior of different economic actors benefiting from corruption, uneven capital distribution, informal economy activities. Prevalence of interests of the few financial and industrial groups in the Ukrainian economy inevitably leads to institutional trap and not inclusive economic growth.

During 1991-2000 Ukrainian government carried out privatization of the state-owned enterprises along with establishment of institutions that facilitate private sector development with different pace and success. At that time former state-owned enterprises were privatized through lease buyouts and auctions for privatization certificates, mostly by Ukrainian citizens (World Bank, 2019).

Attracting FDI was not among top priorities of the industrial policy in Ukraine, while sources of domestic investments were exhausted. In 1993-1997 enterprises with foreign investments were exempted from the income tax (the conditions to qualify

changed several times over this period), but in 1997 it was stated in legislation that foreign-owned enterprises should be taxed on general terms. Unstable macroeconomic environment and ambiguity of the legal system made Ukraine one of the least attractive destinations for FDI (Elborgh-Woytek & Lewis, 2002).

Ukrainian authorities issued many documents stating directions of long-term industrial policy, for example, the Concept of the State Industrial Policy was adopted in 1996 to suspend decline in production, provide structural adjustment, modernization and development of industry, integration of Ukraine into global economic relations (sources of financial resources were not mentioned) (Verkhovna Rada, 1996).

The State Program of Development of Industry in Ukraine was aimed at the creation of sustainable industrial sector and different strategies were outlined for sub-sectors of industrial sector and was finalized in 2003 (Verkhovna Rada, 2003). The Concept of National target economic program of industrial development for the period up to 2020 was adopted in 2013. These strategic documents described current issues in development of industrial sector and outlined possible ways to improve situation; the issue of deindustrialization was mentioned in every strategic document concerning the industrial policy in Ukraine as well as the need to increase investments and share of high value-added sub-sectors in the industrial sector (Deineko, 2014).

Nevertheless the implementation of the industrial policy in Ukraine is complicated due to the following reasons: limited financial resources; lack of transparency and efficiency of distribution of subsidies to support industrial enterprises; obligations to support traditional sub-sectors (for example, coal mining) to preserve jobs; need to balance interests of different groups of influence; low attractiveness for FDI; incomplete transformation to a competitive market economy (World Bank, 2019).

2. Recent Research and Publication Analysis. Various aspects of the development of industrial policy in Ukraine are discussed in the papers of K. Elborgh-Woytek, M. Lewis, L. Deineko, G. Antonenko, A. Zakharov,

M. Zveryakov, V. Mazur, V. Kravchuk, E. Angel E. Stuart, I. Roginska and also highlighted in the publications World Bank and IMF, as well as represented in the documents of Verkhovna Rada of Ukraine.

3. Results

As a rule, the governments of Ukraine provided direct financial assistance (subsidies and grants) to certain industries. This is the so-called sectoral aid, or a vertical approach to the state industrial policy. The main recipients of such assistance have traditionally been the coal industry and agriculture.

In 2014, direct subsidies to Ukraine's economy amounted to 2.8% of GDP, and in 2013 – 3.3% of GDP (according to the Ministry of Finance of Ukraine). It should be noted that this form of assistance has the most negative impact on competition, as it directly reduces the current costs of enterprises, thereby creating unequal conditions for their operation, and does not encourage enterprises to invest in efficiency.

In addition to subsidies, in different years there were tax benefits for enterprises of the mining and metallurgical complex, shipbuilding, aircraft, automotive, light industry, chemistry, energy. Tax benefits primarily concerned the payment of income tax and VAT.

Estimates of state budget losses as a result of tax benefits range from 2 to 3.5% of GDP for the period 2010-2013 (according to the Project "Harmonization of the public procurement system of Ukraine with EU standards"). Thus, the total amount of state aid in the form of subsidies and tax benefits in different years ranged from 5 to 6% of GDP. For comparison, in EU countries all state aid, as a rule, does not exceed 1% of GDP. For instance, in 2011 the amount of state aid in the EU was 0.2-1.2% of GDP (according to the European Commission) (Antonenko & Zakharov, 2015).

In addition to subsidies and tax benefits, state aid in various years also included state loan guarantees, debt write-offs, preferential pricing / tariffing, preferential duty rates on imports of equipment and components, and reimbursement of capital

expenditures. In most cases, state guarantees on loans were provided to state-owned enterprises (Naftogaz, Ukravtodor, Ukrzaliznytsia, etc.). At the end of 2014, the total public debt guaranteed by the state amounted to USD 9.8 bn dollars (Deineko, 2014).

Sectoral aid today occupies the huge share of total state aid in Ukraine. Instead, horizontal aid, which is considered less "harmful" in terms of protecting competition and ensuring a level playing field, is insignificant in Ukraine. Most horizontal assistance programs in Ukraine are ineffective or remain at the legislative implementation stage (not implemented). For example, in the early 2000s, 11 special (free) economic zones (SEZs) were created in Ukraine. In practice, they still exist, but after a number of cases of large-scale abuse of tax benefits, they are subject to general tax rules and do not have any other tools to stimulate the activities of enterprises in these areas (Antonenko & Zakharov, 2015).

It should be noted that in Ukraine it is almost impossible to separate and calculate the effects of state aid, as there is no adequate accounting and control over the implementation of aid measures and their results. Lack of control and analysis of results is one of the main reasons for the low efficiency of state aid projects. In addition, decisions to provide state aid in Ukraine are usually not based on an assessment of the economic efficiency of projects, but are political or lobbied by stakeholders.

Effective measures to support industrial enterprises should increase production, exports, increase profitability, and create new jobs. But in Ukraine, state aid is often aimed at supporting unprofitable state-owned enterprises and addressing short-term social goals. Thus, state aid to coal enterprises is aimed at preventing non-payment of wages to miners, bankruptcy of enterprises, dismissal of workers. It does not encourage companies to restructure and strengthen their competitiveness (Deineko, 2014).

There is no doubt that state aid policy and industrial policy need to be reformed today. The first important step in this direction has already been taken. On July 1, 2014, the Verkhovna Rada adopted the Framework Law of Ukraine "On State Aid to Business Entities". The law introduces the basic principles of state aid in Ukraine,

which are generally compatible with the principles in force in the EU – the principle of transparency, protection of competition, adequate monitoring and control of state aid, an independent regulatory body (Zveryakov, 2016).

If the current trends continue, there is a threat of a reduction in the share of industry in Ukraine's GDP below the optimal one in terms of the country's potential and competitive advantages. Factors in this threat include chronic underinvestment in the sector, which is exacerbated by the current level of access to capital, and the loss of Russia's traditional export market.

Despite the long negative processes, Ukraine still does not have a clear strategy for its industries. Existing state aid programs are ineffective in terms of stimulating the industry and increasing its competitiveness. Therefore, it is necessary to radically reconsider approaches to industrial policy, based on the positive experience of developed countries.

For Ukraine, the best option for such a policy may be a "soft" industrial policy, when the role of the government is reduced to incentives and coordination measures to remove barriers to the development of industrial enterprises, including regulatory, financial, trade, and infrastructural barriers. Identifying such barriers requires close government cooperation with the industry. "Soft" support measures include measures to facilitate access to finance, infrastructure development, export promotion, industrial cluster development, as well as public procurement, innovation and investment promotion (Mazur, 2016).

Another priority of the government should be to reduce sectoral support measures, which distort competition the most and do not stimulate enterprises to develop. In Ukraine, direct financial assistance is most often provided to unprofitable enterprises and helps to preserve their problems. It is clear that for "sensitive" industries (such as the coal industry), the waiver of subsidies may occur gradually in the process of their restructuring.

Sectoral aid decisions should be based on a clear set of strict criteria and conditions. In particular, sectoral assistance should be provided exclusively to finance specific restructuring and financial recovery measures that will have a lasting positive

effect. Such assistance should be temporary and provide clear results from the implementation of the assistance. It should be noted that without strict control, any state aid in the face of corruption and non-transparency cannot be effective.

Before choosing between specific forms of support and between the areas to which it is appropriate to provide assistance, the procedures for selecting and implementing assistance programs should be changed. Reforms in this direction should be continued, especially on procedural issues of monitoring and control at all stages of assistance programs. The principles of transparency and accountability are extremely important. Provision should be made for the possibility of refusing or terminating assistance if certain principles are violated at any stage or if misuse of funds takes place (Zveryakov, 2016).

Existing internal and external constraints need to be taken into account when formulating government policy. Internal restrictions are primarily limited resources of the state. Decisions to support industry need to be made, given the high need for funds for education reform, health care, law enforcement and the armed forces, and infrastructure development. While tax benefits lead to lower budget revenues, subsidies directly affect budget expenditures.

External factors of industrial policy are Ukraine's international obligations. For example, under the EU-Ukraine Association Agreement, Ukraine undertook to limit state aid to economic entities similar to EU countries, and under the Multilateral Agreement on Public Procurement within the WTO, the participants undertook to provide equal access to them to companies of other member states (Antonenko & Zakharov, 2015).

Therefore, public industrial policy should naturally focus on those areas of support that require relatively small budget expenditures, and on projects where the potential return on investment is the greatest (or there is full or partial funding from external donors). At the same time, the implemented measures should not distort trade conditions and competition.

Measures aimed at preserving the "old" industry, as a rule, will not give enough return to justify state support. Public policy should not keep the industry

behind, but instead should encourage an increase in the technological level of production in Ukraine. In particular, this is possible by supporting the implementation of Industry 4.0 (Pidchosa & Pidchosa, 2019).

Today in Ukraine there are no valid strategic documents that would define approaches to industrial policy. Over the last few years, the adoption of an industrial strategy has consistently remained (at least formally) among the government's main tasks in its annual priority action plans. However, the creation and adoption of the relevant document actually hung in the air.

In April 2018, the government published for discussion a draft Strategy for the development of Ukraine's industrial complex until 2025, but it has not yet been adopted. Moreover, the strategy is missing from the government's priority plans for 2019 (Kravchuk & Angel, 2019).

At first glance, the draft Industrial Development Strategy provided only a few measures to support the development of Industry 4.0:

- infrastructure audit;
- popularization and advancement of technologies;
- introduction of international standards in the field of industrial production;
- attracting funding for the program "Horizon 2020";
- support of educational activities and development of a list of new professions.

The draft Strategy also identified a number of general measures that are key to both the development of the industry as a whole and Industry 4.0. It is primarily about creating clusters, stimulating innovation, start-up specialization, and so on. This approach is broadly in line with the situation in many other countries, where the development of Industry 4.0 is in line with industrial and innovation policies. However, the project lacked stakeholders dialogue measures, as well as financial support tools (benefits, loans, etc.).

As for other strategic documents, in the form of a project there is a Strategy for Innovative Development of Ukraine for the period up to 2030, presented to the public

for discussion in 2018. Innovation is a prerequisite for the transition to new production. However, the document does not contain anything on the Fourth Industrial Revolution, although it was submitted for discussion later than the industrial strategy. This reflects a lack of coordination in strategic planning between Ukrainian authorities (Stuart & Roginska, 2016).

In January 2018, the Concept for the Development of the Digital Economy and Society of Ukraine for 2018-2020 was approved. In fact, it is the only valid strategic document that defines certain measures for the transition to Industry 4.0. Despite the narrow focus (on the digitalization of the economy), the implementation of the concept is important to increase the country's readiness for the Fourth Industrial Revolution. Certain measures to support innovation (for example, informing about EU programs, intensifying technology transfer, etc.) are also included in the SME Development Strategy. Thus, in the current and projected strategic documents there are only sporadic measures that can contribute to the development of Industry 4.0 (Kravchuk & Angel, 2019).

Currently, the mission of popularizing Industry 4.0 has been taken over by Ukrainian business and civil society. In particular, the Association of Industrial Automation Enterprises of Ukraine (APPAU) became the founder of the national movement 'Industry 4.0 in Ukraine'. Experts of the Association and Movement 4.0 (with the support of the OSCE Coordinator in Ukraine) developed a draft national strategy for Industry 4.0, which was sent to the Cabinet of Ministers for consideration. The document identifies the main directions of strategic development: from the creation of an innovation system and digitalization of key sectors of the economy to the internationalization of business. The strategy is tangential and lies at the intersection of industrial and innovation strategies. According to the representatives of APPAU, some parts of the developed document can be included in the draft industrial and innovation strategies. The document, in particular, proposes projects for institutionalization of 4.0 at the state level, development of the innovation ecosystem, internationalization (Kravchuk & Angel, 2019).

For the development of the industry it is necessary to continue major reforms and efforts to improve the investment climate (Rogach, 2019). But this is not an obstacle to the implementation of more targeted measures for industrial development and the introduction of Industry 3.0 / 4.0:

- the priority is to complete the work on formulating the Government's industrial policy. This can be done through the adoption of the Industrial Development Strategy or other documents that will formulate the government's position on industrial policy;

- state industrial policy should focus on improving the rules of the game not only industry but also the economy as a whole. It is a traditional set of reforms, such as the fight against corruption, judicial reform, modernization of the education system, development of the financial sector, improvement of the investment climate by reducing the regulatory burden on business and implementing transparent and equal rules of the game;

- given the limited budget funding, it is necessary to refrain from introducing large new programs of state aid to industrial enterprises in the form of tax benefits or direct subsidies. Instead, it is urgent to analyze the effect of existing benefits and draw conclusions about their feasibility. If there is a positive effect of state aid on the development of the industry, aid should be provided in accordance with the following principles: it should be received on time, for a certain period of time and in a targeted manner;

- state aid to economic entities must comply with international obligations: it must not distort competition and conditions of foreign trade;

- it is crucial to support the creation of new enterprises and technological renewal of industrial SMEs. This area can be promising for attracting donor and public funds, for example, for conducting technological audits of SMEs and supporting startups. However, the ultimate responsibility for improving the productivity of their production rests with the entrepreneurs themselves;

- education, science and industrial policy – the industrial development in general and generation of innovations, in particular, require a careful overhaul of the

education system in Ukraine. Technical universities should become an integral part of the innovation sector in a country with close ties to industrial enterprises (Stuart & Roginska, 2016).

4. Conclusions

To sum up, the current industrial policy of Ukraine lacks the strategical aspect meaning that the policy isn't reflected in corresponding documents of the government and does not have an appropriate level of coordination between different agencies. As such Ukraine is unable to prioritize sectors of the economy with the highest growth potential while absence of performance indicators makes it even more difficult to assess the distribution of resources and their efficiency between various sectors. In addition, the government seems to ignore the issues related to the deindustrialization of the economy and does not have a strategy to develop high-tech and innovative manufacturing in Ukraine. On the other hand, the government appears to not have a vision on how to leverage the positive effects of the significant financialization of the Ukraine economy while not harming traditional industries.

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