

FORESIGHT IN PUBLIC MANAGEMENT AS A REGULATION TOOL UNDER THE CONDITIONS OF ECONOMIC UNCERTAINTY

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The uncertainty of the modern Ukrainian economy is growing against the background of unresolved internal political and socio-economic conflicts, rising shadowing, incomplete reforms, etc. Furthermore, external influences like as recessions, which affect almost every country on the planet, and impulses from unexpected catastrophic events, which are visible to the entire world, are included in this list. Therefore, the need for better prediction in national economy public management is growing. The foresight tools appeared to be a response to such a need by science and management practice. Foresight is better than existing tools because it creates an opportunity not only to predict the future, but also to model it. The latter is particularly significant for public management since it can act as a tool for limiting future economic uncertainty.

The *purpose* of this chapter is to identify the possibilities of foresight as a tool for strategic decisions in public management, with regard to the need to limit the uncertainty of the national economy.

The foresight tools have confidently entered management theory and practice. But the issue of their certainty, components, methods and forms of application continues to be the subject of debate. We focus on those aspects of foresight modern interpretation that are fundamentally important, with regard to the possibility of its use to manage economic uncertainty.

Due to the need to use the English term «foresight», for the sake of more accurate identification of meanings, it is advisable to find a Ukrainian equivalent. Such an appropriate term corresponding to the English «foresight», in our opinion, is «modeling the future». It is clear that in a specific context it will concern the future of a certain area. In our case, it is the national economy that becomes the object of public management.

The foresight content is best revealed when comparing (opposing – vs) with other methods of prediction. The following comparisons seem expedient to us:

- formation of *scenarios* of the future vs definition of the *trends* formed in the past;
- *strategic* (long-term) event planning vs permanent response to *current* (in the near future) events;

- understanding development *priorities* vs evaluation of the results of *critical* situations that have already occurred;
- *innovative solutions* focused on long-term effects vs *traditional solutions* focused on short-term consequences;
- *anticipation* (prevention) of events vs reaction *after events* (stay in their fairway).

According to the above contrasts, foresight is a tool for modeling the future, which provides development in a particular *scenario*, the formation of *strategies* based on understanding the *priorities*, and *innovative* management decisions that allow to *anticipate* (prevent) events.

We can find confirmation of the substantiation of our identified foresight qualities in a succession of publications by recognized researchers.

According to the leading ideologist of foresight B. Martin, foresight is a technology associated with a constant effort to look into the distant future of science, technologies, the economy, and society. This glimpse into the future aims to see strategically important areas of research and new technologies that will deliver the greatest economic and social benefits [1].

The French professor of economics J. Heraud and German economist K. Kuhls interpret foresight as a process of understanding long-term trends on the basis of a system approach. [2].

The researcher of European economics P. Becker interprets foresight as a process of active knowledge of the future in the medium and long term with the aim of understanding the future of science, the economy, and society, as well as mobilizing joint efforts [3].

The researcher from Great Britain L. Gokhberg emphasizes that foresight is a system of methods of expert evaluation of long-term prospects of innovative development, technological breakthroughs that can affect the economy and society. [4].

In one of the most cited studies on foresight, it is defined as the process of systematic information collection about the future and future medium- and long-term visions development for real-time decisions and joint actions [5]. Such decisions and related actions are called «foresight projects». The peculiarity of the latter is that they combine two types of projects: research and modern practical actions with a focus on obtaining long-term results.

In a fundamental study by the United Nations Industrial Development Organization (UNIDO), foresight is defined as a systematic prediction of the long-term future of science, technology, the economy, and society to identify those areas of strategic research and technologies that will provide the greatest economic and social benefits for society [6].

The most authoritative international organization of foresight – the Foresight group – in its activities is based on the idea of limited traditional statistical forecasts and the need to expand the range of research information about society for successful

decision-making. The so-called «triangle of foresight vectors», – reflection on the future, discussion of the future and delineation of the future – substantiated by the researchers of this international organization, has become a classic of the foresight science [7].

The development of the idea of a «triangle of foresight vectors» involves the disclosure of these vectors content (Fig. 1). In particular, such an explanation of the content is contained in the materials created under the auspices of the European Commission (CORDIS – Community Research & Development Information Service).

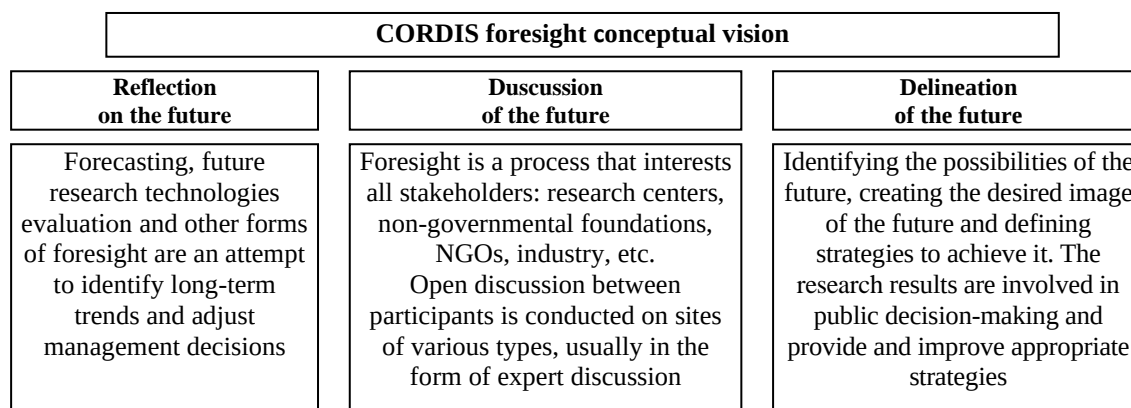


Fig. 1. The content of «the sides of the triangle of foresight vectors»

Source: [8]

In our opinion, for the successful use of foresight it is important to focus on the *procedural* approach to the interpretation of its content. According to this approach, foresight appears as a system of established algorithms, procedures and norms for the accumulation and analysis of information about changes. This enables society, represented by governing bodies, professional and other communities, to anticipate and as if to be «ahead» of the future. This advancement means: to act taking into account the innovative trends that are just being formed, to rely on reasonable alternative scenarios in the activities.

Despite the differences in emphases in our definitions of foresight, they have something in common. This is a recognition that the formation of the «desired» future depends on action today. Therefore, the following basic ideas are methodologically important for the use of foresight:

- the future is being created today;
- the future is variable: the chosen course of action for today determines the outcome of the future;
- the future is not so much forecasted as projected;
- foresight participants consciously choose the future and manage change processes.

Foresight, as a managerial phenomenon, has gone through certain stages of its formation. The study of these stages has both theoretical and applied significance. The analytical Table 1 discloses the main stages of the foresight formation.

Table 1. The stages of foresight evolution

Stage boundaries	The proposed name of the stage	Scope	Countries that systematically use foresight
I stage – 1960s – 1980s.	Technological	Technological and defense research, substantiation of governments innovation policy, projects of individual firms	The USA (RAND corporation), Japan
II stage – 1980-s – 2000-s.	Market-oriented	Evaluation of social consequences of new technologies introduction	The USA, Great Britain, Germany, Finland, Australia, Netherlands, New Zealand, Japan
III stage – 2000-s – 2020-s.	Socio-economic	Health protection, education, quality of life, national security, ecology, international politics, trade, economics	More than 30 countries, including developed and developing

Source: compiled by the author on the basis of [9-13]

As evidenced by the information presented in the analytical Table 1, foresight has undergone at least three stages of evolution. Its formation began with its episodic use in the technological sphere of the two most developed countries in the 1960s – the United States and Japan. In the early 2020s, foresight was used not only in the high technology sphere design, but also in many other areas. The number of countries using foresight as a management tool based on future modeling is growing at the expense of both developed and developing countries.

Separate stages of foresight evolution have the following defining features and characteristics.

At the first stage – *technological foresight* – the potential of science and technology was evaluated to ensure the best competitive positions of countries, regions, and companies. Economic planning techniques based on a linear model of innovation were used. The research participants were limited to experts in science and technology. The technological sphere was considered autonomously from the social and cultural ones.

At the second stage – *market-oriented foresight* – the needs for better organization of markets and certain types of entrepreneurship were emphasized. The market consequences of the introduction of new technologies were predicted. For the first time, technological forecasts began to be considered in the context of solving humanitarian problems: hunger, poverty, security, etc. Representatives of business and public authorities began to be involved as experts.

At the third stage – *socio-economic foresight* – attention is paid to social issues and unresolved problems of society. Therefore, it is an analysis of the links between new technologies, the organization of markets, on the one hand, and the life of

society, on the other. This change of emphasis affected the composition of expert groups. They began to involve not only representatives of the scientific and business communities, but also politicians, government officials, civil society activists, and local government officials. The relevance of modeling the future of communication between the government and citizens, as well as between different population segments, was recognized. The future has emerged as a result of bringing disparate interests together, settling problems, and reaching an agreement.

In the context of the issue studied in this chapter – the use of foresight to limit economic uncertainty – it is important to identify and classify the techniques and methods used by foresight projects organizers.

Foresight, as a special management tool, involves the use of such *techniques*:

- Predominant focus on the so-called «*weak*» markers of future changes.

Usually, the markers of changes are divided into «strong», which indicate the obvious occurrence of events in the near future, and «weak». «Weak» markers reveal a distant future, the outlines of which have not become obvious. Foresight is based on «weak» markers. This makes it possible, with some probability, to anticipate remote, non-obvious changes that require conceptually new, strategic management decisions.

- Identifications as objects of complex interactions and large databases research, according to the requirements of the so-called «bottom-up approach».

Information from a limited range of sources can be used to predict the future when abstracting from complex relationships. This is the «top-down approach». Foresight is based on the study of the maximum possible range of sources, as well as complex interactions between different areas.

- Participation in modeling the future of groups of people – the so-called change stakeholders – with different implementation in the actual process of changes.

To model the future, it is necessary to take into account the different visions of the creators of this future. The activity of creating the future is determined by participation in changes for the current period. The bearers of changes are groups of people who are differently involved in the process of changes. The first group – the «initiators» – is directly interested in the organization and implementation of all planned actions. The second group – the «main participants» – objectively joins the changes, according to the logic of their implementation. The third group – «indirect participants» – can hypothetically influence changes or join them through others.

- Permanent improvement of the model of the future in the process of foresight practical implementation.

«Approaching the future» requires constant updating of foresight projects. Foresight does not end as a phenomenon. It can only be a question of completing a separate stage of a foresight project. As an ongoing process, foresight can only be successful in a developed civil society. It is civil society that ensures that the future becomes not only the product of scientists and inventors, but also the result of the activity of communities and citizens.

Foresight tools cover a complex set of *methods*. It is about half a hundred methods from different fields of knowledge. These are, for example, such areas as

econometrics and statistics, economics and management, sociology and psychology, etc. Even analysis based on the artistic understanding of the future in works of science fiction, etc. is used.

The most perfect visualization of foresight methods is made through the so-called «Popper's diamond». It reflects the classification of foresight methods by the criterion of the source of knowledge. The idea of the existence of four sources of knowledge is used, namely:

- *creativity* with methods based on cognitive and creative abilities of change management participants;
- *expertise* with appropriate methods of expert evaluation by specialists with knowledge, experience and intuition in certain fields;
- *evidence*, which involves the use of methods of scientific analysis of data and facts;
- *interaction*, which is implemented by using methods of identification of collective (joint) vision of future prospects and the course of events.

Foresight methods, according to «Popper's diamond», are given in Fig. 2.



Fig. 2. «Foresight diamond» of R. Popper

Source: [14]

«Foresight diamond», illustrated in Fig. 2, covers more than 30 methods of research and future modeling. With regard to their content, they can be divided into four groups, namely: creativity, expertise, interaction and evidence.

It is clear that not all of these methods can be used in each of the foresight projects. The selection of methods in each case will be influenced by the nature of the research subject area, available resources for research, qualification and interest of research participants and future modeling, etc.

The analysis of the practice of using foresight provides grounds for identifying the following current trends:

- the arsenal of foresight methods is constantly expanding;
- in some periods certain methods are considered more appropriate and therefore begin to be used more actively;
- in some countries, preference is given to certain sets of foresight methods.

To confirm mentioned trends, we will use the following facts:

First. Modern methods of qualitative and quantitative analysis used in foresight projects cover what was not previously an arsenal of foresight. In particular, systematic reviews of science and science fiction literature, morphological analysis, the so-called «trees of correspondence», script and role-playing games etc. are common methods of qualitative analysis today. Methods of quantitative analysis include: cross-impact analysis, multicriteria (cluster) analysis, construction of integrated evaluation indices, etc. It is recognized that, despite the expansion of the arsenal of methods, in each period only 10-15 of them are used most actively.

Second. The following examples of countries' priorities in using foresight methods have been recorded. In Japan, the Delphi method was mainly used during the scientific and technological foresight. In the UK and Germany, the emphasis is on combining different methods. In the United States and France, methods of substantiating lists of critical technologies are preferred.

Third. The World Review of Foresight Methods [15] states that in most of the studied foresight projects, the leading position is occupied by three methods: literature reviews, expert panels, and scenario modeling. Game scenarios, bibliometrics and multicriteria analysis were rarely used. Examples of the involvement of various representatives of public-private partnerships, civil society, and people from different segments of life have become more frequent in foresight projects. This enhances the effect of interaction.

The approach to foresight as a permanently repetitive process provides grounds for distinguishing regular *stages of implementation*. One of the variants of such delimitation of implementation stages is illustrated in Fig. 3.

The represented in Fig. 3 approach provides for the selection of such stages in the foresight implementation as preparation, involvement of participants, development, execution, and upgrade (in the sense of adjustment). Each of the five stages involves a series of specific actions to implement foresight.

Since foresight has a long history, beginning in the middle of the twentieth century, it is already possible to make generalizations about the general approaches and the peculiarities of its organization in different countries.

The first generalization about the peculiarities of foresight organization concerns its *institutional support*. It is usually carried out by national foresight organizations and within national target programs. In particular, such national organizational structures for the foresight implementation have been established in OECD countries. The corresponding information is presented in the analytical Table 2.

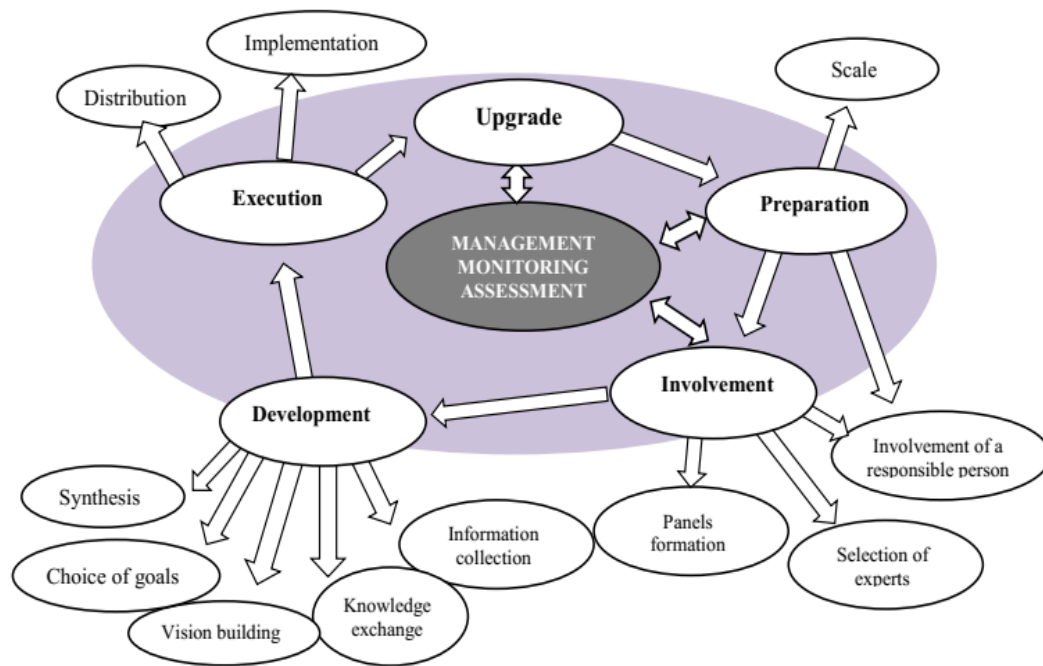


Fig. 3. Foresight process organization

Source: [16]

Table 2. Foresight support institutions in some countries

Country	The name of a foresight organization / program
Austria	Institute of Technology Assessment Delphy and 2013 Report
Belgium	Foresight at Federal level
Bulgaria	Applied Research and Communications Fund
Great Britain	The Foresight initiative
Greece	The Greek Foresight Programme
Estonia	Institute for Baltic Studies
Ireland	Irish Council for Science, Technology and Innovation
Spain	Observatorio de Prospectiva Tecnológica Industrial (OPTI)
Italy	Fondazione Rosselli
Cyprus	The Agricultural Research Institute
Malta	Malta Council for Science and Technology
The Netherlands	Consultative Committee of Sector Councils for R&D Royal Netherlands Academy of Arts and Science for research foresight
Germany	The FUTUR initiative
Norway	Norway 2030
Poland	KBN, of the Ministry of Scientific Research and Information Technology
Portugal	Engineering and Technology 2000
Hungary	National Office of Research and Technology
Finland	Ministry of Trade and Industry FinnSight 2015
France	Technologies-cles 2005
Czech Republic	Technology center of Academy of Sciences
Sweden	Teknisk Framsyn for Sverige

Source: developed by the authors based on [17-20]

The information presented in Table 2 illustrates the existence of special national centers and programs that provide foresight research in OECD countries. They form

the basis for making management decisions designed for the long term. This is embodied in national development strategies and in the formation of current socio-economic policy focused on future changes.

The second generalization based on the foresight organization experience concerns the areas of its application, methods, and results. The corresponding information is presented in the analytical Table 3.

Table 3. Examples of foresight projects in countries which have experience in systematic foresight research

Country/ period	Foresight-project goal	Time horizon	Organizational forms	Methods	Results
The USA critical technologies since the 1960s	Defining priorities for technological development	10 years	Thematic panels (groups)	Survey of experts, expert panels	Identification of critically important technologies
Japan Technological foresight since the 1960s	Outlining the main problems of technological development	30 years	Expert panels	Delphi survey, bibliometric analysis, expert panels, scenarios	Recommendations regarding areas of technological development and scientific policy
Great Britain the second half of 1990s	Improving well- being and quality of life	10-20 years	16 industry panels	Delphi survey, expert panels	360 recommendations regarding government decisions
Great Britain the end of 1990s – beginning of 2000s	Strengthening the science innovative potential	10-20 years	11 industry and 3 thematic panels	Seminars, open discussions, panels, knowledge bank (internet platform)	Creation of foresight training centers, support of the national innovation system
Great Britain beginning of 2000s	Growth of science innovative potential, ensuring sustainable development	10-20 years	A comprehensive program of projects that run simultaneously	Expert groups, scenarios, technologies scanning	Concentration of resources on the practical use of scientific results
France beginning of 2000s	Critically important technologies and competitive advantages identification	5 years	Thematic panels to substantiate priority technologies	Expert evaluation by the national competitiveness strengthening criterion	List of 119 key technologies of the future
Germany Beginning of 2000s	Development of a strategic development vision for the Ministry of Education and Science	20 years	Evaluation groups for directions of scientific and technological development and areas of technologies use	Seminars, open discussion, expert panels, scripts, online surveys	Strategic directions of development, priorities for future research programs
Hungary Beginning of 2000s	Definition of technological priorities, legal regulation directions and state policy	15-20 years	Thematic panels	Expert panels	Creating and strengthening horizontal relationships between science, education, and business

Source: developed by the authors based on [21-23]

The experience of the five countries represented in the table shows that foresight is used mainly to model changes in science, education, and public policy to ensure technological breakthroughs, the outlines of which have already been described. Despite the differences in individual countries, the foresight horizon was mostly 10-20 years. There was a noticeable diversification of forms of foresight during the 1960s – early XXI century. The results of foresight were embodied in substantiated lists of promising areas of technological changes, and in strategic programs of national development.

The third generalization concerns the conclusion on the formation of special foresight models in countries with their own national accents. Special research may be needed to answer the question of why governments chose such priorities above others when implementing foresight projects. Information on the defining features of foresight models in some countries is presented in the analytical Table 4.

Table 4. The peculiarities of national foresight models in some countries

Country	Accents and defining features of foresight models
The USA	<ul style="list-style-type: none"> – Corporate foresight for certain sectors, especially energy and high technology spheres. – Anticipation of technological changes and related decisions in domestic policy and in the field of foreign relations.
Japan	<ul style="list-style-type: none"> – Forecasting of science and high technology development. – Modeling of the ways of new technologies practical use in production and in everyday life of citizens.
Great Britain	Focusing on the model of the future for certain components of the economy and society, namely for: <ul style="list-style-type: none"> – individual regions – «regional foresight»; – small and medium business; – certain social groups, in particular young people – «youth foresight».
Austria	<ul style="list-style-type: none"> – Initiated «from the top», when the content of foresight projects is determined by the central government. – Mainly focused on identifying the country's innovation potential.
Sweden	<ul style="list-style-type: none"> – Initiated «from the bottom», when the content of foresight projects is determined by communities of citizens, so it is based on numerous methods of public opinion research and citizen participation in shaping the vision of the future. – Focused on meeting the priority needs of citizens: medicine and health care, bioresources, social infrastructure, information channels and communications, service industry, education.

Source: developed by the authors based on [24-26]

The information presented in the analytical Table 4, gives grounds to conclude that the national foresight model depends not only on the resource capabilities of countries to organize research. After all, the considered countries are countries with a high level of development. It is likely that the defining features of the foresight model depend mostly on the values of society. These values, as evidenced by the facts, can be different: dominance in the world economy, ensuring the advanced development of individual regions or communities, the quality of life of citizens, and so on.

It is significant that foresight projects at the beginning of the XXI century already related to modeling the future for the unification of countries. In particular, in

2004 – 2005 the project of technological foresight for 2015 – 2030 for the EU countries was implemented. As a result the project determined:

- 40 priority innovation technologies;
- 4 priority areas in the fields of:
 - nanotechnologies and new materials;
 - information society technologies;
 - technologies in life sciences, genomics, and biotechnology;
 - technologies for sustainable development, global climate and ecosystems change [28].

The results of the foresight project for the EU countries are used in the development of EU innovation policy.

To study the role of foresight in the Ukrainian economy public management, it is important to summarize the experience of foresight projects. At the same time, it is advisable to distinguish between foresight projects at the national level, at the level of individual sectors, and at the local level. The latter have become especially important in Ukraine in connection with the ongoing reform of decentralization and the development of local self-government.

In Ukraine, national-level foresight projects are implemented, which are characterized by such features.

During foresight research of 2004 – 2006 under the «Ukrainian Science, Technology and Innovation 2025» National Program (Ukrainian STI 2025):

- the following methods were used: Delphi surveys, conferences, seminars, round tables;
- scientific and technical development priority directions were formulated, recommendations to the government on state budget use were prepared, and requirements for the system of foresight designing training were defined [29].

During foresight research in 2007 for the implementation of the State program for forecasting scientific and technological development in Ukraine for 2008-2012 [30]:

- methods of scenario forecasting of scientific and technological development, expert panels, seminars and round tables were used;
- the list of critically important technologies in priority areas of science and technology was specified;
- the Ukrainian Institute of Scientific, Technical and Economic Information (UkrISTEI) was acknowledged as the leading organization for project implementation support.

During «Human Capital of Ukraine 2025» foresight research, conducted in 2012 [31]:

- methods of expert evaluation with the involvement of a wide range of entrepreneurs and senior managers were used;

- the main trends of changes in human capital of Ukraine and probable scenarios of its development were identified, as well as strategic initiatives of Ukrainian business in the labor market were outlined;

- the study was initiated by WikiCityNomica, the Human Capital Forum organizing team, and the Kyiv Business School.

In 2015, the project «Foresight of the Ukrainian Economy: Medium-term and Long-term Time Horizons (2020 – 2030)» [32] was presented with the following characteristics:

- literature reviews, trend extrapolation, Delphi method, SWOT analysis, and scenario development methods were used;

- the result of projecting the future was the separation of clusters, which, according to experts, will make the largest contribution to the economy of Ukraine in 2020 – 2030, namely to: the agricultural sector (expected share of the economy will be 17%), military-industrial complex (15%), information and communication technologies (12%), creation of new substances and materials, nanotechnologies (12%), energy (11%), high-tech engineering (8%), other clusters of the economy (25%);

- the project was initiated by scientists from the World Data Center for Geoinformatics and Sustainable Development of the International Council for Science (ICSU) and the Institute of Applied System Analysis at the Kyiv Polytechnic Institute named after Ihor Sikorskyi National Technical University of Ukraine.

In terms of «Doctrine of Balanced Development: UKRAINE-2030» foresight study in 2017 [33]:

- methods of trend research, ranking assessment, and scenario forecasting were used;

- strategic priorities were identified and for the first time a new socially oriented model of Ukraine's development was outlined with the nation's creative potential as the main driving force;

- the initiators of the project were scientists of Kyiv Polytechnic Institute named after Ihor Sikorskyi National Technical University of Ukraine, Kyiv National University named after Taras Shevchenko, Kyiv National Economic University named after Vadym Hetman, National University of Life and Environmental Sciences of Ukraine, and Kyiv-Mohyla Academy National University.

Within the framework of the foresight project implemented by the Fund named after F. Ebert and initiated both by the Fund foreign experts and Ukrainian specialists of the Ministry of Economic Development and Trade of Ukraine in 2018 with the definition of the future until 2027 [34; 35]:

- emphasis on the scenario forecasting method was made;

- four scenarios of Ukraine's development until 2027 were identified, taking into account the determining factors influencing the future of Ukraine, including international factors.

In Ukraine, forecasting and analytical research was carried out by individual sectors and activities, such as energy, biotechnology, new materials, information, and communication technologies [36]. Sectoral foresight research included, in particular, the project in 2018. The aim of the project was to create a system of training and retraining of specialists in natural and technical fields, based on the goals of sustainable socio-economic development of Ukraine by 2025 [37].

A series of *local (municipal)* foresight projects have been launched in Ukraine. The most promising projects are related to the strategy of development of united territorial communities (UTC). The features of foresight projects at the local level can be illustrated by the following examples.

Foresight research for Zelenodolska and Pischanska UTC of Dnipropetrovsk region in 2018 [38]:

- the method of expert panels was used to make predictions in the near future for the purpose of the so-called «fast foresight»;

- promising areas (spheres) of changes that can ensure success in the future were identified, namely:

- 1) the use of modern technologies of waste processing of industrial enterprises and improvement of the ecology in the district;

- 2) creation of a system of local agricultural goods production, processing and trade;

- 3) improvement of settlements in terms of transport, water supply, etc.;

- 4) implementation of the right youth policy, including the creation of places of attractive employment, places of cultural recreation, etc.;

- the project was initiated by representatives of local businesses, local educational and health care institutions, active members of sports and cultural NGOs.

In terms of the «Youth in local community development» foresight study in 2018 within the «Integrated Urban Development of Ukraine» project [39], implemented by the «Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH» German government company:

- the method of discussion panels was used to discuss and clarify the concept of development of the city of Poltava;

- a «road map» of joint actions of local authorities, public organizations, educational institutions and business was created to achieve the goals of the Concept «Poltava 2030»;

- the initiators were the Poltava City Council and the «Institute of Urban Development» municipal organization within the «Integrated Urban Development of Ukraine» all-Ukrainian project.

To substantiate the importance of predictions and creation of a vision of the future in all areas, we consider an example related to the formation of a competitive environment of the Ukrainian economy. It is clear that the leading participant in this process should be a public authority – the Antimonopoly Committee of Ukraine (ACU). Despite the natural functions of competition protection entrusted to this body,

its actions give rise to accusations of impeding competition. If such accusations are justified, it is a negative trend that will distort the attractive model of the future.

Given that the current economic situation contains negative trends, in particular in the formation of a competitive environment, foresight research should be based on the awareness of these trends. What trends do the facts testify to?

First, the share of Ukrainian markets with the so-called «competitive structure» is declining. In 2000, 90% of markets with a competitive structure were recorded. In 2015, this share was only 64%. Therefore, there is a tendency to reduce the competitive environment [40].

Second, the general reduction of the competitive environment occurs against the background of a growing share of oligopolistic markets. In 2000, this share was 8%, and in 2015 it increased to 33%. With the domination of «hard oligopolistic core» at the market, the business conditions for companies of the so-called «competitive periphery» cease to be actually competitive. This, in particular, is the focus of Ukrainian researchers. If the oligopolization of markets becomes an objective fact, then anticipation of strategic decisions of firms in such markets should become the main task of the Antimonopoly Committee of Ukraine.

Third, since 2010 there has been a gradual increase in the share of markets with signs of individual dominance, i.e. monopolized markets. In such markets, competition ceases to exist permanently. For example, in 2015 the level of competition in commodity markets decreased to a historic low and amounted to 42,7% [41].

Fourth, the reduction of competition is intensified by the lack of uniform rules for economic entities on tax regime, subsidies, privileges of preferential use of land, infrastructure, etc. [42]. Therefore, it is possible to record the tendency to curtail competition under the influence of government action.

Scenarios of the future should be formed in Ukrainian foresight studies, with regard to the objective consequences of competition reduction under the influence of erroneous antimonopoly policy. The image of such a future could be modeled as follows (Fig. 4):

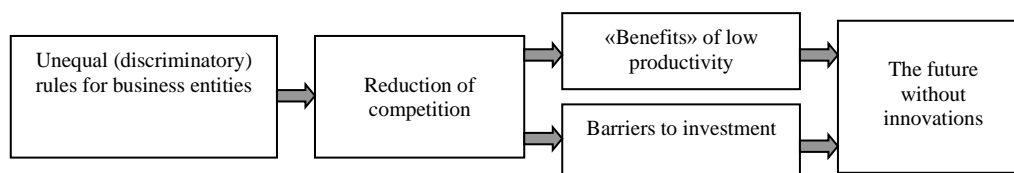


Fig. 4. Possible consequences for the future from the reduction of competition

Source: authors' own

Fig. 4 illustrates the idea of forming a «future without innovations» under the influence of discriminatory rules and reducing competition in the current period. The reduction of competition has at least two rather obvious consequences in the Ukrainian economy, namely:

- unnatural advantages for economic entities which do not care about productivity, because they achieve higher incomes due to the monopoly position;
- unattractiveness of the national economy for investors.

The results of a sociological study testify to the unattractiveness of the Ukrainian economy for foreign investors precisely because of the reduction of competition against the background of an unfavorable institutional environment. It is significant that 92% of the foreign investors surveyed in the study we are referring to already had experience in investing in the Ukrainian economy. The research by the European Business Association, the Dragon Capital investment company, and the Center for Economic Strategy [43] yielded the following results:

- the spread of corruption and distrust of the judiciary are regarded as the two main obstacles to foreign investment;
- prolonged military conflict is recognized as a less threatening phenomenon to investment than the monopolization of markets and the dominance of oligarchic capital.

Based on the results of the foresight research, we are able to draw the following general *conclusions*.

Foresight, as the formation of the image of the future in modern reality, has become a tool of public management at the national and local levels in many countries. Successful examples of foresight research and foresight projects should be analyzed for making generalization and used by public authorities in all countries.

Despite the foresight research experience, the Ukrainian foresight is in its early stage of development as a tool of public management. This is evidenced, in particular, by the following:

- a limited range – no more than three or four – of methods are used in the development of each foresight project. Instead, one of the requirements of a foresight is to use at least six methods to ensure the required level of reliability of predictions;
- the results of foresight research are mostly limited to general conclusions about the general vision of the possible future of the country. The initiators of such studies are scientific university communities. Instead, they should be conducted by central and local authorities interested in specifying the goals of individual stages of creating the future, the time intervals for their implementation, and the tools used to achieve the goals;
- there is a lack of research on the future of certain sectors of the national economy, certain regions and territorial entities, as well as on specific actions to shape the future in the present;
- the results of foresight research are used only as a source of certain information that is likely to be taken into account. No foresight institutionalization system has been created. This system should determine the algorithms for taking into account the results of foresight research in the target programs of the government, in development strategies, in the economic policy of a particular period;

- there is a lack of a system of constant interaction to form a vision of the future between central authorities, on the one hand, and local authorities, local governments, civil society, on the other;
- the creation of an image of the future, under the conditions of unnatural actions of public authorities, should be based on the evaluation of not only positive trends but also negative trends that distort the future.

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