THE PLURALITY OF UNCERTAINTY ECONOMICS MEANINGS AND PUBLIC MANAGEMENT CONCEPTS AND MODELS

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The subject of analysis of this monographic study in general and this chapter in particular is the economics of uncertainty. At the initial stage of research, it is usually necessary to outline as accurately as possible the content of the concepts that will be used in the process of solving a scientific problem. It is primarily about the content and relations of at least four concepts, namely:

– economics of uncertainty as a theory – «Economics of uncertainty»;

– economic uncertainty as a fragment of the national economy – «Economic uncertainty»;

–economic uncertainty caused by government policy – «Policy-related economic uncertainty»;

– political uncertainty – «Policy uncertainty».

Economics of uncertainty as a theory, or «Economics of uncertainty», explains the phenomenon of economic uncertainty using certain theoretical and analytical tools: hypotheses, assumptions, logical constructions, generalizations, etc. The purpose of this part of economics, in our opinion, is to determine the criteria, scope, causes, forms of embodiment, consequences, and ways to reproduce economic relations with signs of uncertainty.

Economic uncertainty as a fragment (component) of the national economy, or «Economic uncertainty», is economic relations with special characteristics, properties and markers (indicators) suitable for assessment. These characteristics, properties, and markers should be studied within the part of the general economic theory, which is defined as «Economics of uncertainty».

Interpretation of the content of economic uncertainty usually begins with the identification of the states through which it is manifested [1]. These include high inflation rates and significant price volatility, low growth rates or crisis recessions, unemployment, unexpected structural changes, expectations of defaults, devaluation of the national currency, etc. When trying to quantify the level of uncertainty and its consequences, researchers often «limit» its content to a certain list of specific indicators, through which, in their view, uncertainty can be identified [2].

«Economic uncertainty related to policy» («Policy-related economic uncertainty») reflects the indisputable and econometrically proven fact that government policy affects the rate of economic growth, the depth of economic downturns, and so on. It is important to single out and identify the economic uncertainty associated with the policy itself, because there is another uncertainty. This is uncertainty caused by objectively existing economic cyclicality. The

uncertainty caused by economic cycles is manifested in the fact that, despite the awareness of the inevitability of cyclical changes, it is difficult or impossible to predict a number of economic parameters. We mean the time of passage of peak points in the ups and downs, as well as their «depth», the duration of individual phases of the cycle, etc. [3; 4]. Despite the fact that there are sufficiently perfect econometric tools for predicting changes, their technical, informational, etc. limitations also create economic uncertainty.

«Political uncertainty» («Policy uncertainty») can be interpreted primarily as actions of the government in the economic sphere, which do not have the necessary justification and organizational and legal support.

Political uncertainty should be interpreted as institutional incompleteness in the activities of policy makers (stakeholders). Institutional incompleteness can have such typical manifestations as gaps in legislation, lack of clearly defined social values, substantiated strategies and programs, as well as political will to implement them. It can be exacerbated by shortcomings in communication in the management hierarchy and in the government's relations with society. Political uncertainty, in addition to the mentioned shortcomings of institutionalization, is objectively related to political election cycles, to unpredictable political reactions of society and individual communities to the actions of the government in overcoming man-made, environmental, epidemiological, and other challenges.

The phenomenon of political uncertainty is so obvious and significant for society that there is a field of research related to the substantiation and use of methods for political uncertainty estimation. Baker S., Bloom N., and Davis S., for example, presented the design of an index of economic policy uncertainty (EPU – Economic Policy Uncertainty) [5]. The latter is used to estimate the situation in the United States and twelve other developed countries. It is significant that economic policy is interpreted in this paper as a symbiosis of fiscal, monetary, and regulatory policy. Thus, economic policy, related to which the level of uncertainty is estimated, is fragmented (structured) according to the most important instruments of government influence on the economy.

The emphasis on the relationship between economic policy and the economics of uncertainty is particularly important in our study for two reasons. First, because «public management» – a word combination used in the title of this chapter – is the implementation of a certain economic policy. Second, public authorities, represented by their central and local authorities, in pursuing a particular economic policy, can either contribute to greater economic certainty or, conversely, expand the scope of economic uncertainty.

In the relationship of two concepts (phenomena) – «economic uncertainty» and «political uncertainty» – the second becomes the cause of the first, namely: political uncertainty causes and exacerbates economic uncertainty. Some evidence suggests, however, that economic uncertainty exacerbates political uncertainty.

As already mentioned the economic theory of uncertainty – «Economics of uncertainty» – is designed to answer the fundamental question regarding the criteria

and scope of the economics of uncertainty. In fact, in this way, the content of this concept (phenomenon) can be clarified.

We assume that the economics of uncertainty is a fragment of any national economy. To identify it, certain assessment criteria (parameters) are required. The theoretical construction proposed by us to explain the scope, respectively, the content of the economics of uncertainty, is presented in Fig. 1.

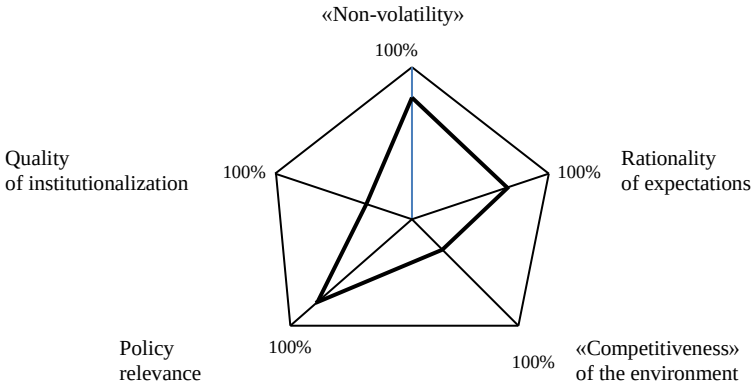

Fig. 1. Uncertainty economics parameters and scope

Source: author's own

According to the idea presented in Fig. 1, the «economics of uncertainty» is a zone outside the figure outlined in black. Inside the outlined figure there is the «zone of certainty», which forms the core of the national economy. The approximation of the actual indicators of a particular economy in five parameters to the mark «100%» means, by our logic, the approximation to full economic certainty. Instead, moving away from the «100%» mark is an increase in the zone of economic uncertainty.

We assume that the content and limits of the economics of uncertainty as a phenomenon objectively inherent in any economy can be determined by the following five parameters:

– «non-volatility» of the economy;
– rationality of expectations of economic entities;
– competitiveness of the economic environment;
– relevance of economic policy;
– public authority institutionalization quality.

Of course, there is no reason to believe that the list of proposed parameters for estimating uncertainty is exhaustive. New research in this area will reveal new parameters and contribute to their more adequate formalization. Extending and improving the list of parameters is likely to make the idea of the economics of uncertainty more substantiated.

For the practical use of the proposed theoretical construction, it is necessary to answer the question regarding determining the so-called «position» in the range from 0 to 100% for each of the five proposed parameters. Obviously, assessment

techniques through comparison, i.e. benchmarking, can be used for this purpose. The latter, as we know, involves the fulfillment of two important prerequisites for appropriate use, namely:

– the availability of a basis for comparison;

– the implementation of the procedure of indicators standardization.

The basis for comparison is formed by the so-called standard values of indicators. As such, the best indicators in the selected group of objects for comparison or the optimal values of indicators defined in domestic or international regulations and methods can be used.

The simplest rationing formulas, which can determine the point in the range from 0 to 100%, are those that fix the degree of deviation of the actual values of the parameters from the standard or the deviation of the actual values from the maximum (minimum) in the selected group of objects, namely:

1) rationing of the indicator –*stimulator*:	2) rationing of the indicator – *destimulator*:
$y_n = \frac{x_f}{x_{st}}$,	$y_n = \frac{x_{st}}{x_f}$,
$y_n = \frac{xf_{max}}{xmin_{max}}$,	$y_n = \frac{x_f - x_{min}}{xmin_{max}}$,

where y_n – the normalized value of the indicator, x_f – the actual value of the indicator, x_{st} – the standard (better for a certain group, normative, optimal, etc.) value of the indicator, $x_{\max}$, $x_{\min}$ – respectively, the maximum and minimum value of the indicator in the group of objects selected for comparison.

More complex rationing formulas provide factual substantiation and identification of certain intervals of «normality» of values within such limits as, for example, «optimal» and «satisfactory», «satisfactory» and «unsatisfactory», «unsatisfactory» and «critical», etc.

Depending on how the standard (best, normative, optimal) values are formalized and represented, either the rationing formula for the stimulator indicator or, conversely, for the destimulator indicator can be applied. For example, in management practice, the indicator of «monopoly power» is used to assess the state of a particular area (market). It is clear that the «competitiveness» and «monopolization» of the environment are opposite in content. Competitiveness narrows the area of economic certainty, i.e. is a disincentive (destimulator) for it. Instead, monopolization expands the zone of uncertainty, becoming a stimulator for it.

The suitability of the proposed theoretical construction (Fig. 1) for the use can be substantiated in the process of explaining the content and current practices (methods) of measurement on the five mentioned parameters: «non-volatility», rationality, competitiveness of the environment, relevance of assessment, and quality of institutionalization.

Volatility in the most general sense can be interpreted as the intensity of fluctuations, as an increase in the degree of deviation (variance) of the actual values from the existing trends and so on. Accordingly, *non-volatility* should mean attenuation of fluctuations and reduction of deviations. The identification of volatility at the national and global levels is mostly carried out in the form of an integrated index assessment with the determination of the percentage change (variance) of a particular index. As a rule, we mean market price indices, first of all stock. The same approach can be used to determine the variance of indicators of economic growth rate, unemployment rate, general price level, etc.

An example of estimating volatility using stock market price indices is given, for example, in a paper on the VIX index and its comparison with other volatility indices: S&P 100, S&P 500, and VSTOOX [6]. Having indicators of volatility, the relative level of volatility of the national economy can be estimated by the group of countries selected for comparison.

The rationality of expectations, as a parameter for assessing the economics of uncertainty, is based on one of the most influential economic concepts of the twentieth century – theory of rational expectations. As you know, the idea of rationality in the economic sphere was formulated by Muth J. in the 1960s. It was disseminated and implemented in macroeconomic theory and economic policy theory by prominent economists Lucas R., Sargent T., Walles N. [7], Taylor J. [8] in the 1970s-1990s.

The relation of the idea of rationality to the assessment of the economics of uncertainty is connected, in our opinion, with such a circumstance. The theory of rational expectations uses the fundamental assumption that rationality is the ability to predict what is really happening on the basis of available information. It follows that the higher the level of rationality is, the less is economic uncertainty, and, conversely, with increasing irrationality in the behavior of economic agents, the scope of uncertainty should expand. We fully agree with the generalization of the Ukrainian researcher O. Vatamaniuk, who aptly noted that the greatest number of *deviations from rationality* is recorded in situations of *uncertainty*, when people begin to simplify the task of choice, guided by certain «heuristic principles» [9].

It is important that the phenomenon of rationality is not only analyzed qualitatively, but also quantified. We have an example of assessing the rationality of the IMF and OECD forecasts for G7 budget deficits on the basis of econometric models. The conclusion about rationality is made on the basis of measuring the error of forecasts [10]. According to the error of forecasts, this approach to the quantitative assessment of rationality is quite substantiated. After all, the inability or limited ability to predict, respectively, an increase in forecast error is a manifestation of irrationality in the primary sense, which was laid by the creators of the theory of rational expectations.

The competitiveness of the economic environment is a rather controversial parameter in assessing economic uncertainty. At a first glance, competition, identified

with the element of the market, should mean increasing uncertainty. Instead, monopoly should be associated with increased certainty. From the standpoint of an individual's economy, the latter statement seems to be true. However, from the standpoint of the whole economy, the conclusion should be the opposite: the scale of the economics of uncertainty increases with the reduction of competition, the complication of business conditions, and increasing levels of monopolization. This can be substantiated at least by the fact that competitive conditions are a certain predictability of results in accordance with the laws of supply and demand. Instead, the monopolized environment generates a phenomenon that can be described as «unpredictability of dominance». This is the uncertainty associated with the impossibility of consensus of common national economic interests. The lack of consensus of interests is an urgent phenomenon of the Ukrainian economy, built on the principles of the «oligarchic model». The latter means the monopolization of economic spheres combined with the dominance of several oligarchic groups in politics.

In the arsenal of the industry markets theory, there are well-tested tools for assessing what is close in content to the «competitiveness of the economic environment» parameter. These are, in particular, a measure of the concentration of business in a particular market (Herfindahl-Hirschman index) and an indicator of the market power of the monopolist (Lerner coefficient). But these indicators, which are suitable for assessing a particular industry (market), do not meet the requirements for assessing the entire economic environment. To a greater extent, this requirement is met by the assessment and ranking of countries in the world according to the Index of Economic Freedom. The latter is known to have been developed at the initiative of The Heritage Foundation and The Wall Street Journal and has been used for 25 years in a row [11].

The Index of Economic Freedom's structure demonstrates its suitability for assessing the competitiveness of the entire economic environment. It is made up of four components, or sub-indices, that indicate key moments in the establishment of the competitive environment. These are: 1) the legal basis of entrepreneurship; 2) methods of state regulation; 3) freedoms of economic entities; 4) open markets. The method of calculating the Index of Economic Freedom refers to such terms and such content of four components:

– «Rule of law» (property rights, judicial efficiency, government integrity);

– «Scale of government» (tax burden on taxpayers, government expenditures, fiscal stability);

– «Regulatory efficiency» (freedom of enterpreneurship, freedom of labor and money market);

– «Market openness» (freedom of trade, investment and financial freedom).

It is feasible to carry out the rationing procedure by using the value of the Index of Economic Freedom calculated for all countries in the world (180 positions) for a certain year. It's possible that the best index values in the world can be regarded as a

reference. The «competitiveness of the economic environment» parameter will thus define the position on the axis from 0 to 100 percent.

We assume that the economic environment competitiveness parameter assessment can be limited to certain components of the Index of Economic Freedom. For example, these can be only two components of the index, namely: «regulation efficiency» and «market openness». In any case, it is necessary to substantiate the choice on the basis of certain assumptions.

The policy relevance is its compliance with the «nature of economic processes» and the specific conditions. The relevance of economic policy can have a qualitative (theoretical) interpretation and quantitative (factual, empirical) assessment.

On the basis of particular theoretical frameworks (models), qualitative assessment of the relevance of economic policy entails forecasting the consequences of decision-making in the fiscal, monetary, international economic and other spheres. Such model constructions are represented, in particular, in each textbook on macroeconomics. Moving from basic to higher levels of macroeconomics complicates them, because theoretical models must account for a greater range of conditions and assumptions. Thus, a comparison of the actual actions of national regulators of the economy with the logic of action, according to particular model designs, is used to assess policy relevance theoretically. In fact, given the logic of theoretical models, it is the answer to a question about the probable outcomes or losses from government economic policy, taking into account the possible instruments of influence and certain circumstances of their use.

Theoretical assessment is necessary but insufficient to determine the level of policy relevance. After all, on its (theoretical assessment) basis, only three conclusions can be drawn about the policy: it can probably be «effective», «poorly performing» or «ineffective». It is clear that only these three conclusions regarding policy limit the abilities to assess the scale of the economics of uncertainty.

Applied, or empirical, assessment of relevance can exist as a part of the so-called «economic policy implementation cycle». To do this, there must be a «policy cycle» in government activities at least. The cycle usually includes the following stages: substantiation (identification of target indicators, tools of impact on the economy, resources assessment), monitoring, adjustment, and results assessment.

The assessment, as a component of the policy cycle, is mentioned, for example, in OECD analytical materials. The materials are aimed at the development of a special guide for OECD countries' self-assessment of the public policy validity (Draft Policy Framework on Sound Public Governance OECD) [12].

If the mentioned guide for policy validity (relevance) assessment for OECD countries is difficult for other countries in its entirety, then its partial use is possible. It is, for example, an assessment due to the deviation of target indicators of fiscal, monetary, foreign economic policy of the government from the actually achieved indicators. In this case, the rationing can be based on the assumption that the standard is the *target* values of indicators. This assumption is supported, in particular, by the

fact that the achievement of goals set by the government is identified as the most important characteristic of the policy [13].

In the study of policy relevance, an approach based on the policy procedures assessment can be used. A modern example of such an approach is the international Digiwhist project [14]. Its implementation involves a relative (by comparison) assessment of the transparency of the fiscal sphere, as well as compliance with tender procedures, the successfulness of the fight against corruption in the public sector.

It is likely that the policy relevance assessment based on an empirical study of the validity of its objectives and procedures should not be alternative but complementary approaches i.e. should be used simultaneously.

The public management *institutionalization quality* is a phenomenon that reflects the process of policy implementation. Institutionalization in public management, in our assumption, covers the rules of decision-making in the public sphere, procedures, algorithms and standards of incentives and restrictions, reflected in the law and provided by certain institutions (organizational structures).

There are quite different definitions of institutionalization in scientific circulation [15]. There are different applications of this term to different areas in different countries [16]. This monograph also provides a section on institutionalization, namely: the institutional design of macrofinancial security [17]. Despite the differences in emphasis in defining the content of institutionalization, it is mostly associated with rules, procedures, law, institutions (organizational structures) of power.

The Global Competitiveness Index (GCI)* can be used to quantify the level of institutionalization. The latter is an integrated measure created under the auspices of the World Economic Forum. The index covers 103 indicators, combined into 12 groups to determine 12 sub-indices. The first of the sub-indices of the integrated GCI index is called «Institutions» and, in our opinion, can be used to assess our proposed «Quality of institutionalization» indicator.

According to the methodology proposed by the World Economic Forum, the sub-index «Institutes» covers a total of 21 indicators, 16 of which relate to public institutions, and the other 5 relate to private institutions. The actual assessment of public authority institutions, which we are interested in, involves the highlighting of five groups of indicators with the following definitions and content:

– «property rights» (protection of property rights in general and intellectual property in particular);

– «ethics and corruption» (corrupt use of public funds, trust in government, corruption payments and bribes);

– «illegal influences» (independence of the judiciary and favoritism in state decisions);

* Institutional design of macrofinancial security to stabilize the national economy.

– «effectiveness of the public sector» (waste in public spending, the burden of government regulation, the effectiveness of the legal framework for resolving disputes and appeals, transparency of public policy);

– «security» (business costs for terrorism, crime and violence, the scale of organized crime, the reliability of the police).

The use of data on the change of the country's place in the world ranking according to the article «GCI 4.0: Pillar 1: Institutions» makes it possible to carry out rationing, assuming, for example, that the standard is the value of the sub-index of the best country. For example, such a comparison should take into account the fact that the place of Ukraine, according to the sub-index «Institutes», changed in 2017, 2018 and 2019, respectively, as follows: 115th, 110th and 104th place [18].

Economic policy and models of public management cannot fail to respond to economic uncertainty. This statement is supported, in particular, by the connection observed by researchers: increasing uncertainty reduces confidence in national regulators (for example, in the central bank). This has a macroeconomic effect in the form of reduced costs for households and entrepreneurial investors [19].

The unpredictability of the Covid-19 situation has sparked a new interest in the problem of economic uncertainty. Not only are its manifestations in the economies of individual countries being studied in more detail [20], but also the reactions of public authorities to the growth of uncertainty, as well as the experience of counteracting the economic crisis by national governments [21].

The response of public authorities to increasing economic uncertainty should begin with the implementation of the security parameter in the system of priority values. It is not just about the response of national regulators to changes in certain indicators of economic security. It is likely that it is time to create a concept of public management that would reflect the fact of the new scale of the economics of uncertainty. In line with the creation of such a concept, the problem of assessing the scale of uncertainty, respectively, the selection of parameters for assessment, become a priority. Therefore, our attempt to substantiate specific parameters – «non-volatility», rationality of expectations, competitiveness of the environment, relevance of policy, and quality of institutionalization – can be considered as one of the steps towards creating such a concept.

The so-called security parameter as the value (and purpose) of public power in the context of optimizing the scale of the economics of uncertainty, taking into account our proposed parameters, should be reflected in such actions:

– preventing and counteracting *volatility* threatening the integrity of the national economy;

– formation of *rational* expectations, primarily through increasing confidence in the actions of the government and its ability to predict the course of events;

– restriction of monopoly and promotion of *competitiveness* of the economic environment;

– formation of a reasonable, i.e. *relevant*, political cycle with consistent and predictable actions of national regulators;

– observance of rules, procedures and norms set by the authorities in the economic sphere.

If security, identified as uncertainty scale optimization, becomes a priority (goal) of public authority, it can conceptually change economic policy. After all, it will be a question of forming a new alternative choice, accordingly, of taking into account the modified coordinates of the policy. In our opinion, such coordinates can be considered: «Welfare (social security)», «Development (investment and innovation)», and «Security (economic certainty)». The relationship between the mentioned alternative goals and, accordingly, the coordinates of the policy are given in Fig. 2.

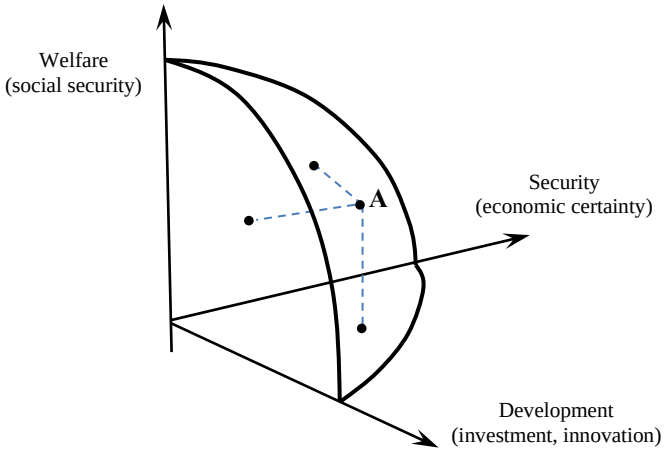

Fig. 2. The model of economic policy as a result of the choice in the coordinates of the three goals

Source: author's own

Fig. 2 presents the idea of forming economic policy taking into account three goals. Two of them – «Welfare (social security)», «Development (investment and innovation)» – can be considered «traditional». Their traditionalism is manifested in the fact that usually goods «for consumption» and goods «for investment» are considered as alternatives to illustrate the choice with limited resources. This assumption, in particular, was used in the theoretical construction called «Social welfare function» or «Community indifference curve» [22]. It is clear that «goods for consumption» correlate with the «welfare» concept, and «goods for investment» – with the «development» concept. The third goal – «Security (economic certainty)» – is not «traditional». It is not used in known theoretical constructions: a) to explain social choice, b) along with two other purposes as the third component of choice [22].

The fundamental ideas underlying the theoretical constructions – «social welfare functions» and «community indifference curve» – in our opinion, can be used to illustrate the decision-making of public authorities with due account of the three goals.

In our proposed theoretical construction (Fig. 2), each of the three curves (and functions) performs the following explanatory role:

– illustrates the limit of possibilities, the excess of which is unattainable, with regard to the available resources;

– is the geometric location of points, each of which presents one of the options of choice of two alternatives, which (options) are equally useful for participants in the political process.

According to the content of coordinates in which three curves are constructed, they could be defined as follows:

– «social opportunities function» (in the coordinates: «Welfare (social security)» – «Development (investment and innovation)»);

– «production capacity function» (in coordinates: «Development (investment and innovation)» – «Security (economic certainty)»);

– «security capability function» (in coordinates: «Security (economic certainty)» – «Welfare (social security)»).

The issue of optimal choice for the three policy goals, as illustrated in the graph of Fig. 1, is not related to the approximation to the so-called «possibility curves», but to the movement towards the plane formed by these curves. In fact, there is the task of «not going» beyond the objective scope, delineated by three curves that form a complex plane. The difficulty of finding the parameters of the selection point (point A in Fig. 2), which would be as close as possible to this plane, only illustrates the greater complexity of the choice «for three goals» compared to the choice «for two goals».

Based on the formed ideas about the content of the economics of uncertainty, it is possible to assess the concepts (models) of public management, their suitability to respond to the challenges of uncertainty. In this regard, it is advisable to distinguish between two manifestations of uncertainty, namely: uncertainty in the processes; uncertainty in the results.

In our opinion, the most adequate response of the management system to uncertainty in economic *processes* is provided by the Governance public management concept. It is likely that the closest Ukrainian equivalent of this English term is the term «концепція публічного *врядування* (concept of public *governance*)».

In fact, the concept of public Governance was historically and logically preceeded by another concept – Governvent. The Ukrainian equivalent of the latter is «public management».

Although the two concepts mentioned – Governvent and Governance – are related, they have fundamental differences. Their connection is manifested in the fact that they are both managerial, implemented in the public sphere and relate to one object – the economy – at the national (macroeconomic) level.

The differences between Governvent and Governance are primarily related to the relationship between the meanings of close but not identical concepts (phenomena), namely: «public» and «state», «governance» and «management». Since the actual clarification of the content of these concepts is beyond the scope of our study, we only represent our vision of this relationship in a concise (formalized) form. In our opinion, the ratio can be given as follows:

«public» > «state»,
«governance» > «management».

The special meaning of the concept of public Governance is best seen in its comparison with the content of the Governvent public management concept. This comparison is given in Fig. 3.

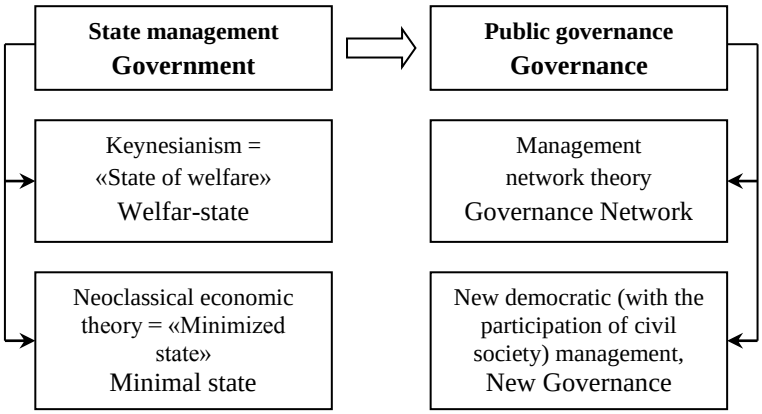

Fig. 3. The comparison of economic management concepts at the national level
Source: author's own

The transition from the concept of state management (Government) in the middle of the twentieth century to the concept of public governance (Governance) of the 1990s – early twentieth century is stimulated by the so-called «gaps» or «failures» of the state. The point is that the traditional management of the mid-twentieth century increasingly revealed the partial inability of the state to solve a number of economic and social problems. Therefore, there is a need to develop new approaches to public management at the national level and to implement new management practices.

The fundamental differences between Government and Governance can be identified through a comparative analysis of the theories that make up the main content of the two alternative concepts.

The concept of Government, despite the differences between Keynesianism and the neoclassical theory on the basis of which it was developed, in both cases provides answers to *similar* questions, namely:

– for the creation of which public goods the state should be responsible, what resources can be used, so what objective economic boundaries of the state are;

– which instruments should be used to achieve the economic policy goals set by governments, which instruments of state regulation and in which cases are most effective, and in which, on the contrary, become inappropriate;

– how fiscal, monetary and regulatory (administrative) instruments should be combined in the economic policy of governments, which policy rules should be followed.

The concept of Governance relates to somewhat different management emphases than the Government. Nevertheless, in the practice of implementing the

ideas of Governance, the use of the Government concept cannot be avoided. In particular, this relates to the formulated rules for the use of instruments of state regulation of the economy, as well as the prediction and assessment of governments economic performance.

The general principles of the Governance concept are reflected in EU documents. This is, for example, a report that sets out the fundamental principles of Governance management. These are the principles of openness, participation, accountability, efficiency, and coherence [23]. From this list follows the conclusion about the emphasis on the *procedural aspect of management* in the theoretical tools of the Governance concept.

The general features of the Governance concept are revealed in numerous sources [24; 25], in particular, devoted to the analysis of theories that shape its content. These are the theory of management networks (Governance Network) [26] and the theory of new democratic management with the involvement of civil society (New Governance [27]).

The most original ideas-answers to the fundamental questions of the management process organization, which were formed within the mentioned theories (Governance Network and New Governance), in our opinion, are as follows:

– *compliance with the rules, algorithms, procedures* for appropriate interaction of policymakers, as well as the democracy of procedures a priori makes it (policy) efficient;

– policy should be *judged* not so much by economic and social performance as by the *quality of compliance with the procedures;*

– the economy needs not management, but direction from the authorities, which are designed to form multilevel links (*networks*), covering and involving not only authorities but also *civil* society in the management process;

– *the democracy of procedures* is achieved through numerous tools of citizen participation – public debates, public initiatives, sociological research on possible reactions to government actions and on the expectations of communities, etc.;

– one of the efficient means of maintaining the democracy of management processes is the use of digital technologies and the formation of electronic governance (e-Governance [28]).

We suggest that the greater potential of the Governance concept to respond adequately to the challenges of the growing scope of the economics of uncertainty is due to the so-called «expansion of contents». This «expansion» is illustrated in Fig. 4.

Fig. 4 visualizes the idea that the concept (and practice) of Governance presents the management process «in a broader sense». That is, it is a question of interpretation of public sphere as a part of both state, and «third» (civil) sector. Accordingly, governance is interpreted as a combination of both the system of public management and the system of citizen participation in public management. Therefore, an additional segment and additional opportunities to respond to economic uncertainty are formed.

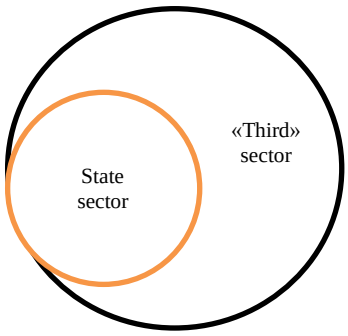

Fig. 4a. Public sphere

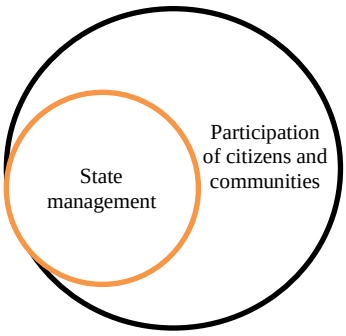

Fig. 4b. Governance

Fig. 4. «Expanding the content» within the concept of public Governance

Source: author's own

The substantiation of the idea of «expanding the content» can be argued based on facts and examples of limiting uncertainty in the Ukrainian economy. We mean that the economic insolvency of the Ukrainian state in the most critical moments of uncertainty is compensated by the Ukrainian society participation. Civil society permanently uses various forms of compensation for the economic insolvency of the state. These include «self-cost» for innovation and security projects, charity and volunteerism in social protection of the population, in terms of underfunding of medicine, education, and culture, as well as in the field of national security, in terms of authorities' inaction to prevent economic crimes, and so on.

Adequate response to *the results uncertainty*, in our opinion, is provided by the practical use of the ideas of the economic nationalism concept.

As it is known, the concept of economic nationalism was formed within the «historical school» of economics in the nineteenth century. To substantiate the suitability of this concept to meet the challenges of the economics of uncertainty, it is advisable to focus on two factors. First, on the historical conditions under which the «historical school» in general and the concept of economic nationalism in particular were formed. Second, it is important to look at the ideas of the founder of the concept of economic nationalism, Friedrich List, from the point of view of those conclusions that have practical value today.

The «historical school» of economics emerged in Germany in the first half of the nineteenth century just at a time when several issues of *uncertainty of the result* became relevant for the country. It is, first, about preserving the national identity and economic integrity of the country. Second, it is vital to gain a place in the world economy against the background of the industrialized imperial England's dominance. It is clear that the prevailing concept of liberalism and free trade then, proposed by the English school of classical political economy, could not meet the national interests of economically weak Germany.

In the scientific legacy of F. List (1789 – 1846), the founder of the economic nationalism concept, we can find a number of ideas that have not lost their importance, among other things, and because they were actively embodied during the twentieth century and continue to be embodied to this day. These ideas and practices have become a worthy alternative to liberal views. They were successfully used by ambitious countries that overcame the lag in socio-economic development and the consequences of economic colonialism [29]. The issue of economic colonialism, combined with a high level of economic uncertainty, remains relevant for the Ukrainian economy in the XXI century.

The ideas of the concept of economic nationalism in the works of F. List[*] and related generalizations about economic uncertainty, which follow from these ideas, in our opinion, can be presented as follows:

1. *Idea*: the economy of each country develops according to special laws, the implementation of which is designed to ensure the development of productive forces of a particular nation at a particular time.

Conclusion: an attempt to implement general rather than special laws in specific areas may slow down the development of national productive forces and increase economic uncertainty.

2. *Idea*: the productive forces of the nation are not limited to material components – the means of production and natural resources. They cover the additionally acquired abilities of people, as well as the system of governance, morality, art, and justice. «Spiritual knowledge» becomes an important factor of economic growth, insofar as it contributes to the formation of new productive forces.

Conclusion: the lack of material productive forces and the associated uncertainty inherent in countries with a low level of development can be offset by the use of social and public institutions potential.

3. *Idea*: the government's economic policy must be active and aggressive. «Educational protectionism», stimulation of domestic production and restriction of imports to meet national needs become an important manifestation of state activism. The task of the government should be to invest in infrastructure, to coordinate the interaction of individual parts of the national economy.

Conclusion: the national economy development, as a prerequisite for the highest level of economic certainty, is provided by the state, endowed with the functions of protection, promotion, guaranteeing the integrity of the national economy.

4. *Idea*: the theory and practice of «free trade» becomes an instrument of economic domination of more economically developed nations over those with a lower level of development. «Free competition between two civilized nations», wrote F. List 170 years ago, «can be mutually beneficial only when they are at about *the same level of industrial development ...*».[*]

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[*] Vsevolod Holubnychyi, a world-famous, but little-known in Ukraine, American professor of Ukrainian origin, was a researcher of economic colonialism in relation to Ukraine. His work «Theory of Economic Colonialism and Its Relation to Ukraine» was introduced into scientific circulation thanks to a study by Ukrainian scholars, represented in the work «Political Economy of Social Progress» by Vsevolod Holubnychyi in two volumes [30].

To present the ideas of F. List, we used the work of Zlupko S.M. [31, p. 354-372] in the part devoted to the German historical school. The mentioned work is interesting in that its author not only relies on the original work of F. List himself (List F. National System of Political Economy. St. Petersburg, 1891), but also uses the analysis of this historical heritage of German scientists and the doctoral paper of the Ukrainian scientist written in the Ukrainian Free University of Munich (Germany).

[*] The work of Panchenko V. [32, p. 6-12] was used in the analysis in the part «Theoretical foundations of the economic doctrine of the OUN, or F. List v. K. Marx».

Conclusion: The practical use of free trade principles by national economies with lower level of development can lead to the backlog and increase economic uncertainty.

The arguments in favor of the suitability of the concept of economic nationalism for the use in achieving higher levels of development and greater certainty of economic results are found in successful models of economic revival of individual countries.[**] The analysis of national models from the standpoint of implementing only two ideas of economic nationalism – national unity as a source for productive forces development and state activity in national economic projects implementation – is presented in the analytical Table 1.

The list of successful models of public management with components – ideas, tools, organizational practices – that correspond to the concept of economic nationalism could be extended and analyzed more deeply. In the context of the topic of our study, it is important that these facts do exist and that they relate to successful countries. The term «successful country» refers to a country that has achieved the desired socioeconomic development result. This should be viewed as the concept of economic nationalism assisting in the precise limitation of uncertainty through the criterion of *the obtained result*.

Conclusions. The concept of «economics of uncertainty» reflects the fact of the objective existence of relations with special characteristics. The latter are identified and qualitatively assessed by the «economic theory of uncertainty» – a special area of economic research. When economic uncertainty is exacerbated or, conversely, leveled by economic policy, it becomes appropriate to single out the concept of «economic uncertainty caused by policy». Economic uncertainty is caused by politics with signs of uncertainty, or «political uncertainty».

Understanding the relations between economic and political uncertainty provides a basis for drawing conclusions about public management concepts and models.

The identification of the economics of uncertainty involves the use of parameters for its qualitative definition and assessment. To this end, in our opinion, such parameters as the volatility of the economy, the rationality of expectations of economic agents, the competitiveness of the environment, the relevance of economic policy, and the level of its institutionalization can be used.

Comparative databases created to calculate the integrated indices of international organizations can be used to quantify the scale of the economics of uncertainty. These are, in particular, the sub-indices of the Index of Economic Freedom and the Index of Global Competitiveness. National statistics on economic growth, price fluctuations and employment, stock indices, etc. should also be used as a basis for assessment.

[**] Translated by V. Panchenko from List Frederik National System of Political Economy. Philadelphia: J. B. Lippincott & Co, 1856. P. 77.

Table 1. Two of the ideas of the economic nationalism concept in the models of public management of separate countries

Ideas of the economic nationalism concept	The examples of the implementation of the economic nationalism concept ideas in the successful models of national economies revival
National unity, overcoming of social exclusion as an «additional productive force» and a source of economic growth	The model of «State Socialism» in Germany in the 1880s – 1890s under Otto von Bismarck: overcoming the alienation of the working class and its opposition to the German state through the adoption and implementation of a number of social protection laws in medicine (1883), pension insurance (1889), labor protection (1891).***
	The model of «Ethical (Confucian) capitalism» of the first third of the twentieth century, under the Japanese leader E. Shibusava: overcoming alienation through the formation of a «positive identity of national business» by creating charitable organizations in cooperation with the Japanese state, implementing social programs, including school systems renewal, etc. [34].
	The model of «French Solidarity» of the Fifth Republic after the adoption of the Constitution of 1958, under the presidency of Charles de Gaulle: selective support for the most economically backward regions, overcoming alienation between social groups through the «participation system», «social elevators», including «elevators» in the civil service system, reforming the educational system in the direction of guaranteeing quality education for all [35].
An active state in the national economic interests and national production protection and promotion	The model of «building a secular national state» in Turkey in the 1920s and 1930s under Mustafa Kemal Ataturk: «state patronage» over strategic sectors of the economy with investment in production infrastructure and the highest economic growth at the time; abolition of «unequal agreements» with European countries and return of production facilities to the ownership of Turkey [36; 37].
	One variation of the Asian Tigers model under Korean leader Pak Chŏnghŭi in the 1960s: the implementation of import substitution and foreign economic expansion through government support for large corporations (Samsung, Hyndai, LG, etc.); implementation of economic (creation of almost half of the country's GDP) and social function by corporations [38].
	India's national interest protection model in 2010 under Riendra Modi's premiership: government's «Produce in India» program implementation, which builds on its own human resources, including ambitious youth, education reform, business facilitation, especially in the field of high technologies [39].
	The Rwandan Economic Miracle model, under Paul Kagame of the 2000s and 2010s: implementation of the idea of regional leadership in trade, logistics, tourism, IT and ensuring sustainable and high (7% per annum) economic growth; public investment in infrastructure (fleet, logistics facilities, roads); state stimulation of exports and restriction of imports in the part that is not related to high technologies; reduction of the share of foreign aid (as a percentage of state budget revenues) [40; 41; 42].

Source: author's own

The implementation of the security parameter in the coordinates and goals of economic policy can be considered as a probable adequate way for the theory and practice of public management to respond to the uncertainty economics scope

*** Summarizing materials on successful models based on economic nationalism are presented in the work of the Analytical Center «Ukrainian Studies of Strategic Research» [33].

increase. In this case, the security parameter should be interpreted as a limitation of economic uncertainty.

Concepts and corresponding ideas have already been developed in economic theory and in the theory of public management, which, in the case of practical implementation, can provide an adequate response to the expansion of the economics of uncertainty. This is, firstly, the concept of public governance with the idea of expanding the content of management at the expense of the «third sector» and public participation in the implementation of the «cycle of economic policy» (Governance). Secondly, it is the concept of economic nationalism with the ideas of an active state in the protection of national economic interests, in the creation of social institutions for the development of national productive forces and overcoming the economic lag.

Relevant areas of future research in the field of economics of uncertainty could include as follows: further clarification of multiple meanings of the economics of uncertainty, identification and classification of forms of its manifestation, improvement of tools for assessing its scale, and generalization of new ways to respond to economic uncertainty in different national models of public management.

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