

Systemic Productions of the Most Important Life Activities: Implementation Tools and Pragmatics

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Abstract

We are raising a problem of overcoming the unidimensionality and one-sidedness of the economy in application considerations. The tools of so-called *systemic productions*, which are suggested for this purpose, allow presenting, for instance, monetarist policies as a certain profile, a reflection of the economic space. This fact is illustrated by models developed by the author.

An option of resolving the current crisis state is produced in this work through a proposed system of accelerated revival and modernization of Ukrainian economy.

Keywords: Systemic productions, Economic space, Supramacroeconomics, Domestic market

1. Problem Background

Critical estimates of current development of the world economy are indicative of one-sidedness of the way in which life activities objects and processes are covered. Initially, all components of national economy and economic relationship in the society are inextricably interrelated in terms of economy, production, finance, infrastructural and social aspects, and culture. These relations are so determinant that it would be reasonable to conclude that they form an essential aspect of the national economy itself, its unity and integrity, as an object and a system that serves and is developed by the human and society for their own benefit. The author has already stated that in his previous article (Kozhurin, 2013).

Unity and integrity of a national economy result from the systemic production of the effect of its elements, from target setting and regulation on the part of the individual, society, and the state. The acts of systemic productions and the process constituted thereby are a subject of the scientific research considered herein. We consider the concept of national economy and economic activity in a way established in the science (see, for example, Bulgakov, 1982).

The purpose of our research is to develop the principles and methods of defining the nature of the above mentioned relations, the results and consequences of decisions taken in the system, and objective conditions for the development of rules, laws, and efficient acts intended for their implementation.

Our study of this subject was necessitated by problems that cannot be solved by any government authority and are not covered by the existing state management structure. These function include: (1) ensuring sufficient employment and (2) domestic market development. Particularly as the related problems have become quite urgent. Neither the resolving of these issues is envisaged by the means of traditional macroeconomy, i.e. at the inter-industry level (Ministry of Economy, Ministry of Finance, etc.)

Let us take, for example, the employment problem. The thing here is also that, for example, in post-Soviet countries, there have been drastic changes during the past decades: labor resource deficit has become its opposite – the excess of labor resource; the former powerful domestic market of industrial raw materials, particularly in Ukraine, has decreased from 70% to 20-25% of production volume.

But the most important and complex problem here is that if the relevant authorities were created, their responsibility would be "contrived" or "bureaucratic", i.e. dysfunctional. Neither, say, the Ministry of Labor, nor the Ministry of Social Development are entitled or able to solve such problems since the respective functions are the prerogative of the supreme body of the executive power, the Cabinet of Ministers.

No other institution in our country has been or can be responsible for the creation of new (or restoration of) jobs, nor can they design the domestic market. It is because the source of these problems is in the structure of the economy itself whose basic facilities have already become private property, and the major market is not yet effective. It is the government only that is able, and constitutionally obliged, to implement its citizens' right for labor. But the domestic raw material market could solve this problem and, at the same time, create new additional GDP volumes, contribute to the improvement of people's standards of living, and resolve a number of pressing social problems.

And no government can evade such duties (Note 1). Hence, we immediately obtain at least three supramacroeconomic functions which can be denoted as follows:

- Domestic market;
- Structural reorganization of economy;
- Population and employment.

An obvious mechanism for performing such functions by the government is supramacroeconomic balancing. In the opinion of the authors of this proposition, nowadays, we must urgently put the above mentioned mechanism into action in our country.

It is also necessary to create an appropriate economic space. This function is named "Economic space formation". The Cabinet of Ministers must also be restructured in appropriate way. Basically, we call this act a "reloading" of the Cabinet of Ministers. The very essence of "reloading" will be a **transition of government's methods from industry-based to functional ones**. This is what has been long talked about in the political quarters.

As an illustration of the supramacroeconomic principle and source, Fig.1 shows a simplified diagram of the interrelated performance of the above mentioned functions, which we will use to illustrate the further discussion. The important point in this diagram is defining the goals and tools of solving current problems. The goals include: ensuring employment, creating millions of new high-technological jobs in the advanced raw material processing industries (machine and tool engineering), and increasing of personal incomes.

The tools include: economic restructuring, significant expansion of domestic raw material market, accumulation of financial funds for implementing required economic and social reforms.

The present time is also marked by new challenges of regional and even global scale. They are related to the tension in energy and food security. Other pressing issues include an increase of national currency liquidity risks and unsteadiness and lack of proper regulation of financial and investment activity. Such issues are at the supramacroeconomic level of governance.

These are all those things that, as a rule of a thumb, cannot be laid upon the resources and possibilities of the market.

Therefore, we can outline now the already said **new administrative sphere and management technology – supramacroeconomics (Note 2)**, the cornerstone of which is supramacroeconomic balancing of the country. And its implementation is laid upon supramacroeconomic mechanisms. The latter, however, must not be antagonistic to the market concept of economic development. Supramacroeconomic mechanisms must not be imposed on the market and be implemented at the expense of its efficiency.

These methods must come naturally and be oriented at the realization of public interests in the society. Particularly, they must help establish market space, serve the development and reproduction of societies and countries as a whole (but not separate fields or industries, which actually takes place in Ukrainian raw material and energy industries). Supramacroeconomics is likely a management environment and one of the methods for overcoming the unidimensionality of national economy, a tool for implementing the true social economy. It is a synergetic interpretation of determinant categories – economic space, monetarism, domestic market, social balance, and other components of national economy.

Supramacroeconomic balancing is a methodology which is alternative to the provisions of so-called John Williamson Washington Consensus (for developing and emerging economies) oriented at the sufficiency of macroeconomic state management concept, in its simplified and adapted form (Rogoff, 2003).

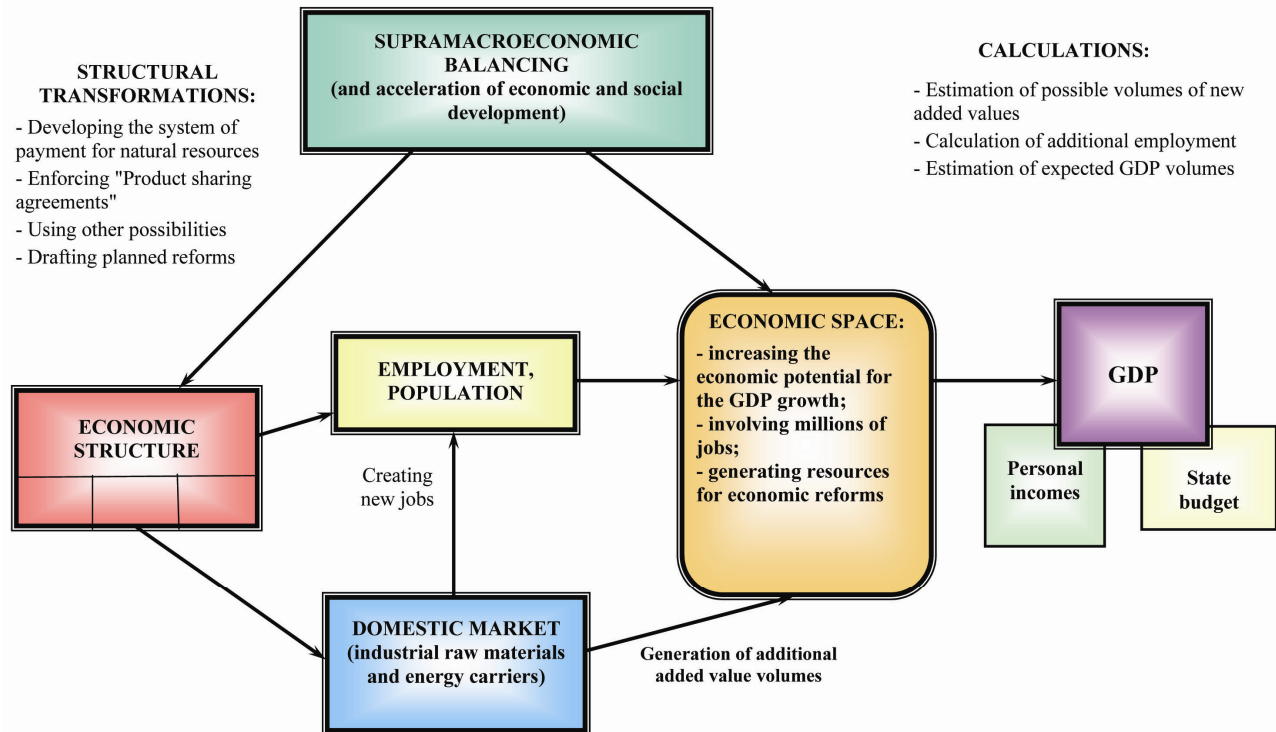


Figure 1. A Fragment of Economic and Social Development Concept

(alternative to Washington consensus)

2. Definition and its Extensions

The adjustment of economic management to our supramacroeconomic subject is a crucial, radical step in advancing to the true philosophy of national economy. In this article, we are trying to interpret this conclusion in terms of monetarism, involving the category of economic space.

We consider this as a specific step in advancing from the now prevailing profit and capital incentives to the human and its methodological essence. Therefore, a further stage here can be "economic space → social economy" dynamics. And this must be implemented not only by supramacroeconomics, but also by another management type – producing the most important human life spheres.

For the purpose of this work, *systemic productions* mean the ideas of the most important life spheres of the society and the state, based on the necessary completeness, unity, and integrity of national economy. Each them is included and bound up in a single entity, i.e. produces and reproduces logical and analytical actions, required estimates and calculations that fully reflect the essence of subjects and their systemic sequence for one, two, or more types (spheres) of activity in advancing (approaching) to the expected (target) final result of the functioning of national economy.

Applying the term, "systemic production" suggests creating (implementing), generating, and achieving the goals of an item further referred to as a subject or a completed action that will lead to a result to the fullest extent corresponding to the objectives, with high quality, reliability, adequacy, etc.

For example, "systemic production of employment", with reference to the set of subjects and interrelation structure shown in Fig. 1, will demonstrate a dependency logic for really possible increase of population employment; and the shown calculations present the figures of the obtained added value, the number of new (or restored) jobs, as well as the investment supply level (Note 3).

The point of using the terms "production" and "systemic" in the title of this article becomes clear. It is worth to clarify that the term, "production" that we use is a natural derivative of the words, "produce", "productively", and "create" ("re-create"). As applies to management or regulation of economic development and social sphere, production directly relates to the function of any given management level and the specific life activity.

Thus, production includes the algorithm of actions (evaluations and calculations) and it inherently encompasses substantive logic reflecting systemic links that guarantee economic (in the most broad sense of the word) result.

However, it is limited by evaluations within the considered area of life activity in consistency with its development goals set by society. It shall be noted that, however hard the representatives of systemic (or cybernetic) science as such may wish for that, the achievement of the absolute general economic result is essentially hindered, because the goal-setting is of transcendental nature here (which is demonstrated in S.N. Bulgakov's works; see Bulgakov, 1982). The mankind still has a long road to travel in order: **first** – for a man to return to its original state of relationships with nature; **second** – to elaborate and put in practice the true triumph of the ideas of liberty, equality, reasonable consumption, and truly sustainable use of natural resources.

As our contemporary researchers justly point out, the economic science shall first rise up to the platform of primary truths – of individual and mankind relationships, the role of labor in gaining knowledge and using the wealth of nature and public self-government – prior to performing its quantitative evaluations of economic development.

To a certain extent, we try to take into account the above said while also considering our own tools of systemic production used herein in relation to such areas as structural reorganization of the economy, monetarism, domestic market, social balance, population and employment, economic space, culture and intellect, and national idea. Nowadays, these supramacroeconomic categories are the major levers of re-creating the life activities of a society and the state.

Further, we may state that systemic production is a method and tool for extending the economics over everything, and not just over the unjustifiably narrowed scope of its application. This is the very fact that modern interpreters of national economy and economic management use to support such idea, while requesting to overcome unidimensionality of economic study and representation of the whole subject of an individual and mankind life activity. In this direction, production of the most important areas of activity will mean specifically justified, project-based definition of the main parameters of such areas as well as means and ways of achieving their target values within the supramacroeconomic structure of the national economy as a whole.

We can use this opportunity to remind of our own work in this direction. First of all, we are referring to the modernization of management systems in post-Soviet countries with the aim of appropriate transformation, broad transition of economic management from industry-based to functional methods on the highest governmental level – the level of the Cabinets of Ministers and Presidential Administrations.

One more thing. As experience, including personal experience, suggests, the movement towards establishing the philosophy of national economy will be very problematic in our countries without real interpretations and practical examples of implementation of its separate provisions. Just like any other science, the philosophy of national economy shall be put to practice (incrementally) piece by piece and element by element. Now, our task consists in specific implementations of the proposed tools.

We hope that our initial efforts will be able to be of service in such case.

Trying to summarize somehow the whole process of economic functioning, many engineers representing the management present the monetarism as one such generalization. Though, strictly speaking, it is not so. Because it is impossible to establish truth here without all-round coverage of human activities. And that shall be continuum, spatial coverage. On this way, the economics must also turn from pure econometrics to national economy, which seamlessly links to production and human labor. That's on the one hand. On the other ("upper") hand, it shall directly relate to and even transform into general political management of society.

Proceeding from such assumptions and setting aside our own warning (see above), we will start with the monetarist component of national economy.

3. The Urgency of Transformations in Monetary Policy

Monetary systems and circulation of money are blood vessels of the economy. This is why their condition and functioning principles is interesting for both researchers and practicing specialists – the users of monetary stock and other monetary tools – for business activity and normal life of people.

The study and discussion of methodology of monetary and foreign exchange policy structure is still in progress. The same refers to the tools of their implementation in the economy. There is also a separate aspect of this issue, which is the degree of user's interests satisfaction with monetary services. In other words, **how does current monetarism look like in the eyes of customers of the provided services?**

The experience of studying this problem and evaluating positive and negative characteristics of practical activities of both monetary service users and central banks emitting money and other financial tools leads the author to a conclusion in favor of advisability of **considering monetarism as a constituent part of such an object and process**

as an economic space of the country (as well as international relations). At the same time, we realize that, in any case, even without such clarification, no researcher of monetarism considers it separately or disconnectedly.

It would be useful to evaluate certain practices of monetary-currency activity. In the first place, this refers to the practice that was in place in Ukraine during the first 20 years of independent development. Table 1 below may help us analyze the set of such problems (Note 4).

Of course, we cannot abstract away from objective circumstances of the considered time frame in this analysis. However, the monetarist component was making its "contributions" into the situation being formed. The initial period is characterized here as a striking lack of balance throughout different economic spheres of the country. It is most clearly seen (see Table 1) from the activity change trends in energy and commodities industries and advanced raw material processing enterprises, from steep decline in GDP volume after 1991, deterioration of other economic indicators, and decline of standard of living and employment level.

The change of economic structure had been characteristic. Specific production volumes in instrument engineering and mechanical engineering decreased from 30.5% in 1991 to 13.7% in 2007. At the same time, the relative values in raw materials extraction sectors rose in approximately the same proportions. Our table shows product price trend (see column IV) in the analyzed industries. It does not say much in favor of high technology industries.

If we take into account the decrease in raw materials industries, the steep downward slope of GDP (2-3-fold) and the respective decrease of the standard of living become easy to understand. Due to such situation, radical measures, including those relating to our subject, monetary policy, was in demand in the country in the period in question.

The situation in monetary supply of domestic markets draws attention, as well as the direction of actual use of its capabilities by our state (represented by the government and National Bank of Ukraine) in order to stop the decline and to facilitate the functioning of the country's economy by monetary means, for example, by facilitating the required structural transformation thereof.

But, alas, we do not see any activity of this kind (see column I of the Table). The situation is rather the opposite – starting from the introduction of national currency (in 1996) and 5 years in a row, total demonetization of economy was taking place, which led to reversal to archaic offset payment methods – barter exchange was flourishing throughout the country. Neither the government nor the National Bank of Ukraine ever thought of using their investment levers.

It is most likely that the National Bank, whose independency was vociferously declared at the time, was in no position to facilitate economic development. Or, it was unable to "feel" the interests of economy, the universal "bread-winner" of the country. Which monetary indicators could be talked of at the time? Everything was different – the speed of "goods-money" and "money-goods" exchange was slowed. Monetary policy did not correspond to its major purpose – **to ensure that the money are the payment means.**

As a result, our Central Bank became "independent" from the problems of the country as well. And its activity represented a "disservice" to the ideas of its mastermind, M. Friedman (Friedman, 1947). But perhaps the most unacceptable here was that sequential monetary saturation still did not have the investment focus – virtually all input money were "eaten away." Against the backdrop of a stabilization process in progress, majority of non-financial corporations worked half-steam and almost all high-tech Ukrainian companies were destroyed forever, which "dishoused" several million workers. Was it a stabilization? An analogy with the U.S. depression in the 1930s is clear. However, in the U.S. there were objective circumstances, while Ukraine has created the depression itself... (Note 5)

Table 1. Missed opportunities due to "retaining" the economic structure, employment, and welfare (1991-2007)

Period.	I. Monetization and GDP **			II. Economic structure		III. Rent (for raw materials)	IV. Pricing	
	M3/GDP	Particularly by economic entities	Lag* for issuing	Raw materials and mining sector	Advanced processing sector		Materials sector	Advanced processing sector
2007	55.6 %	29.2 %	4.4 %	29.9 %	13,7 %	The standard payment for subsoil in Ukraine is 10 times less than in Russia. And that could be a financial lever for the transformation of Ukrainian economic structure.	Raw material prices increased by 3.3 times (compared to 1990). Plus, there was a state support (laws of 1999 and 2001) of approx. 2.5 billion UAH.	Prices for machine building products decreased by 7% (compared to 1990)
(GDP ≈ 712.9 bln. UAH)								
2006	48.71 %	29.7 %	11.2 %					
(GDP ≈ 535.86 bln. UAH)								
2000	18.96 %	37.72 %	41 %					
1998	≈ 14 %		≈ 46 %					
1995	(GDP ≈ 105.7 bln. UAH)			23.4 %	16 %			
1991				11 %	30,5 %			

*Lag (orientation) calculation to enable issuing is based on average indicators of transition economies – 60% of GDP (per year);

**Deterioration of the economic structure "drove" our GDP to negligible amount.

And till this day, the professionals still do not know how the National Bank of Ukraine itself evaluates its activities during the above period. Informally, there were versions of the alleged need to preserve the stability of the hryvnia. Although it was clear to everyone that such stability was not "in the offices," but rather in the real sector – the production – it manifests itself in high productivity, low cost and competitiveness of the products, and high added value.

Ukraine is still suffering from the consequences of that economic "fall". "Indexist" monetarists should have made the following conclusion: there shall not be areas of monetization in the country, which would not be focused on the areas of development functions of the real economy or achievement of the highest goals of the country. Of course, in the long-term strategy. This is the **first aspect**.

Second: **to properly build the monetarist policy, its members shall be considered as a component of the economic space of the country.** And the latter is advisable to design, entirely, if possible, within the unity of all the system components, as required by the category of national economy.

We call such approach **the systemic production of the monetary policy**. The systemic production must have the corresponding algorithmic mapping.

And something else: hundreds of works have been written and thesis defended regarding the subject hereof, a dozen Nobel Prizes awarded, but the results are often not quite fit and not used regularly. They often are not "embedded" in the conventional technology of national governance.

Another concern is the adequacy of the procedures for determining of certain indicators and parameters included in the respective analytical expressions (in particular, money demand or supply). Especially – in the medium-term periods. For such periods, the indicators of economic space are more appropriate, which we will try to show below. And, perhaps, J. Keynes was right when stating in 1936 that the lack of clarity and generality in the premisses could be the cause of an orthodox economic science coming to a standstill.

In connection with the foregoing, the objective of this article is to prove and show the possibility of achieving a whole set of economy-wide effects of the introduction of specific monetarist measures (in addition to, and sometimes as a counter to, the existing practice to obtain separate, unidimensional results). To implement the plan, we selected a

specific way – through the use of the concepts of economic space, structural improvement of the economy, as well as other supramacroeconomical state functions.

4. Economic Space - Systemic Productions Environment and Basis

Economic and social processes exist and are manifested in the economic space as a whole, and not in its separate sectors. It is already well known. In the economic space, such processes show their synergy to the full extent. The use of this fact is the objective essence of our approach and suggestion. Integration or, better to say, the production of monetary policy through the economic space, is nothing else but another, "sectoral", manifestation of the unity and integrity of the objective economic laws and the ways of their reflection in the established systems of life support (see Kozhurin, 2013, pp. 731-733). This is confirmed in the above analysis of the gap between the sectors. Let us see what is going on here.

The phenomenon of economic space has not yet been "established", and not really demanded not only in practice, but in the theory either... But the economists have been using the indicators (factors) that characterize the concept of economic structure (production of capital goods, items of consumption, industry-specific products, etc.), domestic market (availability of facilities for the processing of raw materials, labor pool, the possibilities of industrial consumption, and the paying capacity) for a long time.

However, there is an increased shortage of a superconcept, which would focus the above and other factors, and, most importantly, result in compliance of all the conceptual apparatus on the needs of the natural integrity of the economy as a systemic object and phenomena. That is why the introduction and use of the categorical level concept, **an economic space**, is sound and efficient.

However, methodological aspects of an economic space building, the calculation of its parameters, and the designing thereof as a whole have even greater practical importance. The meaning of the economic space cannot be reduced, for example, to the introduction of well-known limits for entrepreneurship, as some experts believe. Instead, the economic space can be characterized with quite tangible and generalized indicators. This meaning is broader – as in its process manifestation, the economic space is not only a kind of expansive transformation of the above limits, but it also reflects the objective procedure of the implementation of such limits and subjective features of the "deployment" of economic processes. On this stage, the need arises for a certain analytical representation of economic space.

Today, we need new method (new algebra) for calculating of characteristics of the economic space, which could be a generalized consequence of the above components. Strictly speaking, if you communicate in mathematical language, it is just about setting the complex of functions on a given economic space:

$$F_1, F_2, \dots, F_n \quad (1)$$

Each of the functions $F_i(x_j, y_k, z_l)$, where $i = 1? n$, will depend on the 3 types of parameters from parameter sets: x_j = the limit conditions of activity, y_k = objective conditions (presence of highly liquid natural resources, labor force, etc.), z_l = subjective data (government activity, fiscal authorities, business entities, etc.)

One can portray a perfect composition of production and economic sector of the country, which meets modern requirements with due account for available natural resources and human resources of the country. And it shall be done (at least approximately). A reasonable representation of such complex can be achieved using advanced holographic capabilities (Talbot, 2005), and the author is currently working in this direction. (By the way, the data below is a meaningful display of one of the parts of the required hologram).

But the main question is how to ensure the functioning of the anticipated complex and how it will be recreated? In other words, which are the ways and levers to perform such task? For that purpose, a "general economic regulator" can be created.

The problem is how, through which mechanisms and actions, the government should form a necessary institutions and further act in order to effectively use its levers, such as pricing, monetization, competition, budget and finance, currency, taxes, subsidies, etc. The final, systemic result, objectively determined using a complex and ambiguous algorithm depends on the combination of these and other levers.

It is very simple, for example, to prepare a one-sector monetary regulator. Namely, let us assume that the increase in monetary aggregate, $M3$, in the amount of K_1 will increase the GDP value by Δ and the inflation, by K_2 . Then, the effect can be measured as follows:

$$\Delta \text{ GDP} - K_2 = E_{ff} > 0 \quad (2)$$

where $M3 \rightarrow \text{norm (4\%)}$

The presence of the second term in this expression means that arbitrary increase of **M3** is unacceptable. For, along with inflation, in reality, there will be a number of other factors, many of which will become apparent later. Therefore, in this regard, the most important task is to **define the composition of the economic structure factors**. Another problem could comprise a rough calculation of such structure with the balancing of its components development between themselves in terms of resources used and the dynamics.

We are talking about a *kind of set of each component of a vector of the reference state of economy, which will lead to the target result, i.e. identification of specific economic units, the stimulation of development of which will in turn lead to the desired value of the analyzed macroeconomic indicator. The economic units to which the schemes and ways of development stimulation are to be applied* will represent the list of the government tasks, and have the highest priority. The "solitaire" thus created will be a reflection of the designed economic structure.

The compliance of the vector of the current state of economy with the reference vector will be the criterion of effectiveness of the current economic structure. In fact, it will not be a structure itself, but rather its characteristics expressed in the indicators of the vector of economic state.

Indeed, we can come to a state program (or programs) of structural transformation, including a range of activities and facilities. It should be noted that, in the present circumstances, in order to overcome all existing problems of our modern life, the state has to actively participate. It is necessary to overcome the taboos against such structural transformations, which are considered unacceptable in the market conditions. (However, keep in mind that the state, at the same time changes its guise, and largely becomes entrepreneurial structure with specific methods and criteria of activity.)

For effective influence on economic processes, quantitative estimates of the economic space and estimates of the effectiveness of possible measures to remedy the situation are needed. Moreover, the respective calculation schemes are required. And due to the multi-factor nature of economic processes, the calculations can be performed only at the level of the models that adequately reflect the such processes. Next, we will present the "backbone" of a common calculation scheme (or, which is the same, the basic data for the vector of a reference mode of functioning of the economy).

1. Necessary (and sufficient) amount (weight) of the monetary aggregate, **M3** (can be determined using objective needs in working capital of at least major budget-forming enterprises and acceptable settlement and loan rates, deposits, and securities):

$$\mathbf{M3} \approx \sum_1 + \sum_2 + \dots + \sum_n \quad (3)$$

where **n** = the number of such enterprises.

2. (Approximate) share of components in production costs (in the world practice).
3. The acceptability of domestic raw materials prices (that ensures the competitiveness of high-tech products).
4. The required domestic market capacity (necessary for employment within its capabilities).
5. The methods and volumes of diverting emitted funds from the consumer sector.
6. Mutual change (increase/decrease) trends for the above basic data (paragraphs 1 to 5).

For the assessments and regulation, in a slightly abridged version of the economic space coverage, we proposed following expression:

$$\mathbf{GDP} \rightarrow \mathbf{max}, \quad (4)$$

$$\text{where } \mathbf{T}_p \leq \mathbf{T}_{UAH} \leq \mathbf{T}_{GDP},$$

where: \mathbf{T}_p = price increase rate; \mathbf{T}_{UAH} = hryvnia emission rate;

$$\mathbf{T}_{GDP} = \text{GDP growth rate.}$$

This will be the very systemic energy structure, which defines the contours of positive advancement and the trajectory of truly systemic advancement, i.e. satisfying the requirements of the "national economy".

To capture the essence of the systemic assessment, let us choose the simplest possible but formalized approach to the characteristics of specific economic situations. It is called a dynamic standard (see, for example, Syroezhin, 1986, pp. 28-31). This standard does not allow for the growth of domestic prices above the allowable rate of growth of national currency (hryvnia) devaluation. The same standard provides for proactive growth of GDP as compared to both product prices growth rate and, even more so, hryvnia devaluation rate.

We mean real, not illusory, growth of GDP and other indicators. And it will be truly systemic result.

Criterion (4) is a methodical consequence of a certain order of relative positions of the three indicators of the economic state vector. We take the above order as the one of the highest priority – it will be a skeleton which will restrain the system of national economy as a whole.

Now, if we designate the given sequence as, for example, "1", the inverted sequence, as "0", all other sequences will be assessed in terms of their difference from other criterion and goal-oriented order within the range from 0 to 1. It is easy to establish that the above difference characterizes the closeness of order structures. Such simplified concept allows the state management to objectively navigate in real situations, each time comparing the actual situation the reference one. Statistical theory and the availability of many other methods ready for immediate use of the models are quite acceptable conditions for the practical application of such tools. The appropriate formulation of a problem is only needed.

Such dynamic standard appears obvious here. Its composition is stipulated by optimization task limits (see expression (4) above):

$$T_p \leq T_{UAH} \leq T_{GDP} \quad (5)$$

$$\sum_{i=1}^n L_i \rightarrow \min \quad (5a)$$

where $L_i = 0$ or 1 and means the inversion of the i^{th} index compared to its location in the reference composition.

But each of above components is an aggregate indicator itself. And detailed disintegration is needed for its actual use, up to the statistically relevant level. Moreover, as already mentioned, the sufficiently detailed level, which would enable a direct influence on the indicators (using state levers).

Next, there is the possibility for program planning of a systemic reformation process by using other criteria of goal-oriented development. This requires substantial expansion of the information vector of economic development. Particularly, it shall be organically supplemented with the condition of fixed assets, the degree of their modernization, the structure of budget revenues, the structure of internal and external markets, etc.

The question will then arise how to construct the information system. The advancement shall be from two sides. Firstly, from the primary indicators. Secondly, from macroeconomic indicators to less aggregated ones, to achieve the level where quantitative values are subject to direct influence and for which the statistical data is available. The second option seems more acceptable.

And, if using individual or a combination of some of the above methods, procedures, or criteria, one can adequately assess not the state of the economy alone but rather the state of the national economy as a whole, predicting its future state, the representatives of monetarism can, or even must, use their levers and influence strategies through the parameters of the economic space.

5. The Relevant "Reading" of Monetarism.

Application and Selection Methodology

There are various methods of assessment of the way of "pragmatization" and objectification of the monetarism's opportunities. But for the author, the most important thing is that the goal lies not in rearrangement of public and private, nor in substitution of concepts, but rather in deepening the development of methods of practical implementation of the ideas of the monetarism theory authors, M. Friedman, J. Keynes, and other scientists.

And, by elaborating its pragmatism and natural mediations, we expect to get new ideas regarding the theory itself. By the way, the author does not insist on faultlessness and perfection of the essence of introduced criteria and specific analytical expressions shown above. We merely propose one of the approaches towards solving the problems of monetarism.

We strongly disagree with the production of money "out of thin air." The realities of economic crises and financial recessions suggest otherwise – the reason lies not in the real sector of the economy, but rather in the activity, or empiricism, of large financial institutions.

The objects and subjects of accounting and calculations are material and intellectual values, goods, but not abstract financial tools. Monetary policy cannot be based on "bare", often speculative and unproven, indices. Settlement schemes shall be based on the realities of economic space, the structure of the economy, commodity-money relations.

The fundamental error of so-called Washington consensus (see Rogov, 2003), as well as the financial policy of the West during last 30-40 years lies in misunderstanding of above provisions.

The reader can imagine a pretty simple toolkit of the economic space and then get involved in the interpretation of the method of monetarism. By showing aspects contiguous with the latter and revealing the mediations of the economic space, we use the possibilities of a new concept, the definition of new sides of its component, the monetarism, and by doing so we largely avoid the risk of deviating the truth.

We formulate the term, *monetarism*, without collecting together its constituent elements, as required by traditions of a systemic approach – a lot has already been done for us in this area. We approach the monetarism as though from the outside – from the side of its perception and "consumption," the consumption by the multilateral environment, that is the national economy. The particularity of our formulation of the problem is that it does not lie in, for example, determining the demand for money, planning money supply or other indicators – as our formulation is reduced to the obtaining of ultimate result of economic governance, that is GDP, required structural state of the economy, domestic market, etc.

General comparison of the main indicators of monetarism with conceptual and instrumental apparatus of the economic space, for example, in the form of a certain figure, or even better, in a multidimensional space, will be the most representative. However, as we do not have necessary technical capabilities, we will continue our presentation in the form of discussion of a simplified scheme shown in Figure 2. It shows the main components of the economy, closely interacting with monetarism.

Thus, in the framework of our "economic space" approach, we interpret the main ideas of M. Friedman in the factors of economy assessment, which, in terms of their functions, are usually the problems of the government of any country. We call them *supromacroeconomical functions* (concepts and categories) (see Kozhurin, 2013).

Further relationships logic and methodologically new qualities of the elements of monetarism and economic space is best seen from the following comparative presentation.

1) The criterion of productiveness of economic development, which was originally used by us as a methodological component of the economic space. In the previous section of this paper, it is presented by an analytical expression (4). Now it is considered as an analogue of the quantity theory of money in the classical monetarism and represented by a well-known formula:

$$MV = P \cdot GDP.$$

Further monetization of the economic space is illustrated by our subscheme on Fig. 3.

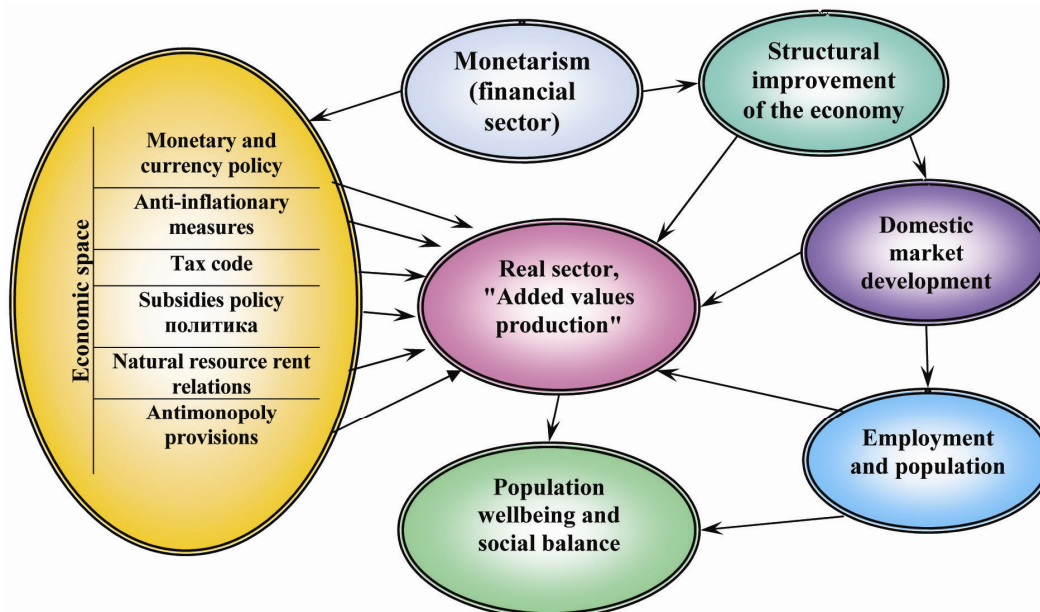


Figure 2. Monetarism, as one of the key components of the economic space

The same subscheme further motivates the need for a simple monetary regulator, which was indicated by (2) earlier in this article.

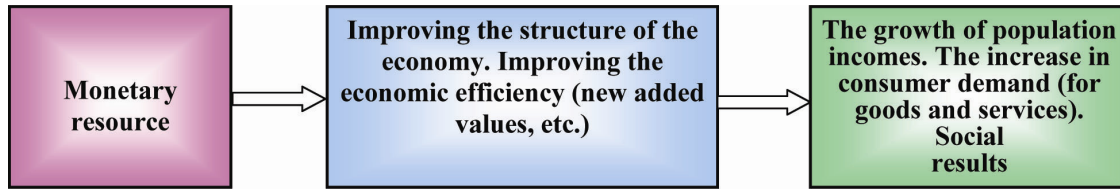


Figure 3. Subscheme of the life cycle of economic space

This expression determines the general outlines of validity of the structural reorganization to achieve the same objectives as in (4). The impact of the monetization under specific conditions shall be projected as the effectiveness of capital investments – not in proportional volumes, but at least in an arithmetic progression of growth.

Expression (4) above and relation (2), presented as methodological ones, are based on different methods of statistical extrapolation of the values, organically embedding the monetarist strategy in the real economic space.

2) Ensuring the development of economic space and implementation of monetarism policy within the concept supported by the author is achieved by compliance with the general megaoptimization criteria specified by the universal set of functions (1) – see previous section hereof.

The vector of the reference state of the economy (in our case it shall be normalized by (5a)) will be an approximate limit of the optimization problem. It is easy to find that such requirements will be reflected in the subscheme shown in Fig. 4.

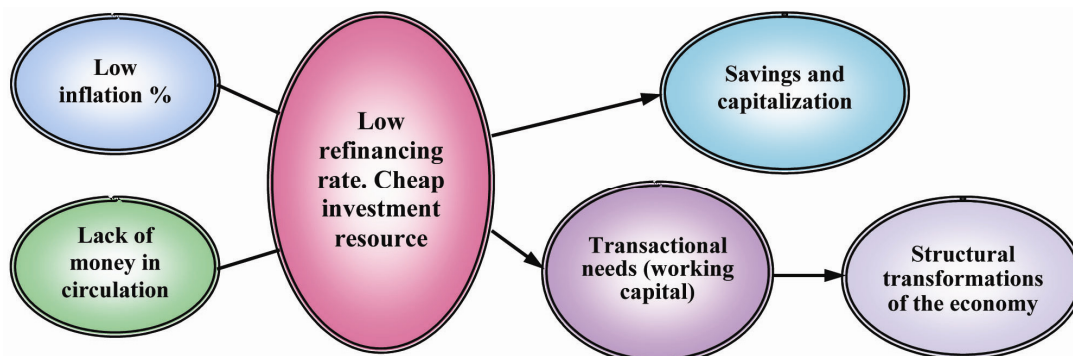


Figure 4. Money supply mechanism

This scheme, in its basis, as we see, also reflects the features of monetary policy. Including the polysemy of money multiplier:

$$m = \frac{S}{M3},$$

where S = money supply; the polysemy means cash, securities, transferable and other deposits.

There is an almost complete compliance of the parameters used with the quantitative theory of money supply of M. Friedman and other monetarism scientists. However, the whole point of the attempted comparison is the criterial focus of the vector of the current economic state at a specific time point, the use of the synergic properties of the economic space as a whole, in order to achieve the best indicators of the economic state vector. For example, tracking and consistent reduction of the production cycles duration will mean a real transformation of the monetary resource into new added values. And it has to be embodied in the systemic production.

3) Determining the optimal level of monetization – perhaps the most convincing task in terms of formulation, but still not uniquely solved by the monetarism tools. The criteria for solving this task are not unifactor and often contradictory. But, nevertheless, we cannot say that there are the criteria not worthy of attention.

The decisive and already expressed view of the author lies in sufficient monetary support of commodities turnover in the country subject to relative stability of the monetary unit. However, many scientists (M. Friedman and others) prove, sometimes convincingly, the need for separate consideration of the economy, represented by the real sector, and the cash flow. In such case, factors of non-inflationary activity and low price increase are involved in the motivation. Other scientists, including J. Keynes, justify the function of money as a direct stimulus of economic and GDP growth.

The author, through a number of analytical expressions, such as (5) and (4), is trying to ensure the harmonization of the factors and criteria similar to the above. There are methods for the quantitative determination of the necessary level of monetization, justification of the necessary money supply in the economy. We use expression (3) for such purpose. Other authors create formulas that help easily obtain the desired final values. However, such formulas are often include the variables that do not have definitely accurate calculation algorithm, thus causing mistrust. Therefore, in its very formulation, such solution is questionable. (Although, of course, we must recognize that by doing so it is possible to identify the worst and the best solutions – in relation to different conditions and evaluation criteria).

By offering a way to solve the problems of monetarism through the methodology of economic space, we want to draw attention to the fact that this will decrease the risk of "money-for-money" situation, which in many ways caused global and regional financial crises in the last 15-20 years. Money alone cannot create wealth, and according to the theory, they are not wealth. It is strongly desirable, therefore, to avoid transactions that bypass the real sector of the economy (or a social sphere).

It was apparently for that reason that J. Williamson, the author of the "Washington consensus", in its idea of reducing the state control of the national economy, now sincerely regrets that no provision of sufficient financial control of large financial corporations through the establishment of special institutions was made in his theory. According to his idea, they could become a kind of "filter" of inadequate contracts, which ultimately lead to economic recessions. To our opinion, the best option for said purpose would have been a "closer" interaction of monetary policy and the economy, where the expected control would have been more natural and efficient.

I would like to make one comment. At the same time, we, as the followers of the social economy and the concept of national economy, cannot run to extremes in dealing with "bare" econometrics and limit ourselves to only qualitative assessments of the state and the goal definition for society advancement. We must be more organic in terms of the use of quantitative measures. We cannot avoid recognizing the classical interpretations, such as the fact that the science can only achieve the best results when it can make use of the mathematics.

6. Interpretations of the Established Approach

The proverb says: "Walk and ye shall reach." Therefore, according to the logic of the research, the implementation algorithms shall be the next development stage after the methodical aspects. As a rule, the implementation algorithms are contained in specific projects. One of such implementation algorithms is outlined below.

It consisted in an attempt of structural transformations of Ukrainian economy by transferring the major unit volumes of production from raw materials and mining enterprises to advanced processing companies in 2005. Those transformations could eliminate or significantly improve the imbalances and disproportions in our economy by expanding domestic raw materials market, increasing GDP production and employment while improving the structure of the latter in essence.

According to our proposal regarding the implementation of the two special state programs of agricultural machinery and modern aircrafts production, targeted monetary emissions were to be performed: first stage – 6.3 billion UAH per program. Thus, the total financing would have amounted to 12.6 billion UAH. The state would have received, in return, the large number of new (or restored) jobs.

The Ministry of Economy was recommended to develop and approve the business calculations for returning the borrowings on the basis of which it was required to make appropriate proposals regarding the change to be introduced to the already prepared State Budget of Ukraine for 2005.

How was it supposed to be done in terms of technology?

1. In the formulation of the State Budget of Ukraine for 2005, an addition was to be made regarding the increase of the domestic borrowing by 12.6 billion UAH by the Cabinet of Ministers of Ukraine (respectively increasing the budget spending).
2. The changes to the Annex to the "State Budget 2005" were to be made regarding an increase the appropriations of UkrAgroLeasing National Joint Stock Company by 3.15 billion UAH (for the purchase of agricultural machinery and its sale upon the terms of financial leasing) and the Ministry of Agricultural Policy ("Ukragrotehkomplekt"), by 3.15 billion UAH (for direct sales in the domestic market.)
3. The provision in the Annex to the State Budget for 2005 regarding the distribution of loans in the total amount of 6.3 billion UAH was to be made: Aviant State Enterprise, Kharkiv Aviation Plant, Zaporozhye "Motorsich", etc. (for the placement of state order and aircrafts production).

From both programs, the state would have received its financial benefit, namely, from leasing or payment upon delivery. But the main results would be the following: a) increased employment opportunities and citizens income; b) satisfied demand of the villages in agricultural machinery; c) improved use of high technologies in domestic production; d) reduced economic monetary imbalance (with the introduction of additional money supply); e) increased safety of metal products sale (reduction of the risks in its sales abroad). It was also expected a better use of existing facilities of mechanical engineering and instrument engineering, GDP growth, and the expansion of the tax base (that created the opportunities to reduce tax percent).

However, nothing of that kind was done by the government. Although emission activity in Ukraine was very high during the period following 2005 (as evidenced by M3/GDP values after 2006 – see Table 1, Section 1). Apparently, this is possible if a monetarist disclaims the main role of his or her work for the real sector.

Today, at the time of the proclaimed period of economic reforms and national projects in Ukraine, we have proactively undertaken an actual substantiation of the comprehensive structural economic reforms in our country for the period till 2017. In this regard, the mechanism for economic growth was proposed, namely: bringing GDP to 2.5-3 trillion UAH, the state budget, to 0.8 trillion UAH, GDP income per person, to 8-10 thousand USD, bringing the state closer to the EU standards.

The above mentioned mechanism is also based on the policy of monetarism, which was discussed earlier in this article. Which initial conclusions could be made from above suggestions?

1) The main one is that the methodical and methodological convergence of monetarism with the category of economic space, first of all, provides the basis for improving the validity and effectiveness of strategies and the monetarism itself. Secondly, such an alliance would have a stabilizing effect on the development on the economic and, especially, financial systems, reduce the probability of occurrence and spread of international and regional financial crisis, depressions, recessions, etc., because **it will reduce the overall volume of business transactions, in which the operands (objects) are just money flows.**

2) The suggested approach puts on the agenda the need for new measurements in the field of monetarism, with the active involvement of the conceptual apparatus and functions of economic space, structural reforms, and other categories of supramacroeconomics. In this context, new opportunities open up for formation and use of synergy effects, the study of which in this connection now becomes an important task for scientist and specialists.

3) Selection of practical strategies as well tactics of monetarism shall take into account the economic space development projects for specific periods. Under current conditions of Ukraine, it is necessary, therefore, to consider following guidelines for the use of monetarism:

- targeted measures for structural transformation of the economy;
- involvement of the underlying economic mechanisms of the growth and development of the domestic market;
- development and implementation of mechanisms of social balance of interests and corresponding transformation of the system of state and corporate management.

4) Some monetarist principles under the conditions of financial crises – not uncommon today – are subject to revision, just like it is now urged to do in relation to the Washington Consensus, which recently determined the ways of development of the economies of many countries of the world (since 1989).

For example, in future the new approach will enable medium-term planning of monetary strategies, as the latter can be more specifically based on reliable calculations of forecasts of economic sectors development for the medium term. (To date, the founders of monetarism considered such planning irrational.)

5) Capabilities and effectiveness of the proposed monetarism alliance will deepen and increase with the development of economic space tools both through its further parameterization and the establishment new relationship with factors and indicators of monetarism within systemic productions. Although, of course, this process cannot be left unattended and will need a lot of efforts of researchers and government institutions before stable results can be achieved in this area*.

7. Production of Other Spheres Defining the Ukrainian Economy

In 2010, at the very beginning of the activity, after assessing the economic situation, the members of the new presidential team in Ukraine chose generally correct targets. First, to smooth over the current financial situation and second, to implement the planned strategy.

The finances of Ukraine are remembered to have been in a critical state 2 years ago. The huge current debts and other liabilities (both external and internal) were "shouldered" on the country. To date, according to the Government reports, the acuteness of some issues has decreased.

However, with the implementation of the adopted economic reforms and national projects, the loss of the prospects of the planned systemic advancement became clear. Namely, refocusing of the large Ukrainian economy from the dominant export to the domestic market, development of the latter to ensure employment and GDP growth, state budget, and population income did not take place. The country is still under the risk of stability of metal and chemical product markets and the liquidity of the national currency.

According to the various calculations, 5-7 million of our citizens work abroad, while they could increase the main productive forces of the country. About the same number of jobs is lacking in our country. And it is when the pension and other social funds are at risk of underfilling.

Now the significant problem is that the state budget is still very low – \$40 billion. For 46 million people, it is peanuts in comparison with European countries and the most other countries of the world. The hopes for efficiency of market mechanisms have not come true yet; the expected investments do not come to the country.

What is the matter? The matter is that it was impossible to focus on the mentioned source of GDP growth only. The state management has missed the acute need of structural reorganization of the economy – from raw material and energy orientation to the development of advanced processing industries, to reach at least the indicators of 1991. This was due to the immersion of the country into the systemic crisis and the striking imbalances in the economy since then. In addition, for 20 years, no one has really tried to correct or overcome those processes.

The drastic measures are necessary.

The measures, which in this article we call **structure reorganization measures**. We have to proceed with a serious realigning of operational conditions of raw material and processing industries, the basis for which is provided in the Tax Code (significant increase of payment for subsoil and other natural resources). Now, particularly, it is reasonable to apply the provisions of the Law of Ukraine "On product sharing agreements" (1999, No.1039-XIV) to already operating mining and first level advanced processing enterprises.

Both above stated directions would allow to **create a financial base for restoring the advanced processing industries (machine building, etc.), not only through their preferential taxation, but by further utilizing the leverage of government order for their products** – at the initial stage. And only then, through the functioning of such extended system, the country can constantly, through this interrelation, receive high-value-added GDP incomes and expected jobs. Individual projects, for example, in agricultural machinery industry are already prepared. The project of the entire "System of accelerated industrial revival and modernization of the Ukrainian economy" is also developed. Our rough estimates regarding the efficiency of the proposed reforms show a significant related increase in employment and strategic growth of GDP volumes and the state budget.

Thus, **the advanced processing industries become determinant and the most prioritized sphere of the Ukrainian economy for the forthcoming period.**

We have to bear in mind that without high added values, there would be neither modern Europe, nor the U.S., nor other developed countries. Therefore, Ukraine has to make such steps anyway. It is only necessary that the government, in its actions and objectives, shall adhere to the recommendations shown in our Fig. 5 (Note 6).

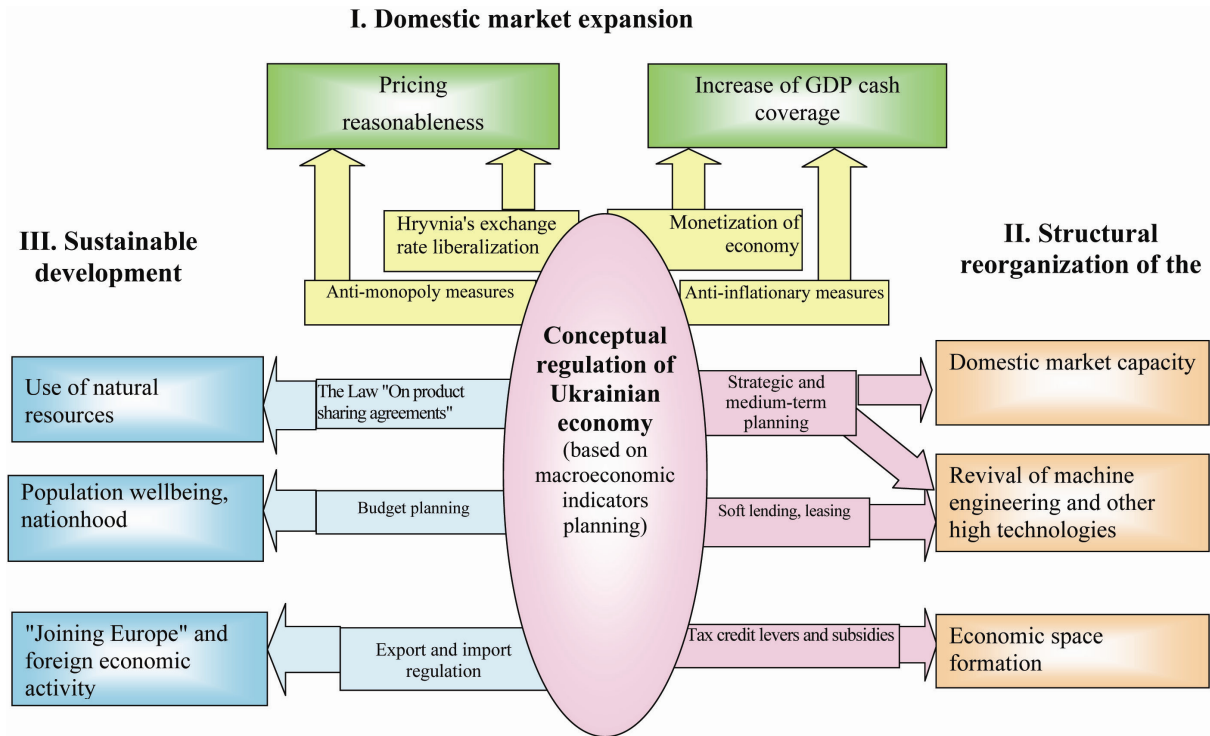


Figure 5. Subject and levers of conceptual regulation of Ukrainian economy

Implementation of the proposals herein could be facilitated by **activating the implementation of the already envisaged program of Ukrainian reforms**. Particularly, it would be advisable to do the following:

- inclusion of an additional section (national project) of "Creating the financial potential of ensuring the further economic development of the country";
- measures to be taken by the Ukrainian government for implementing the provisions of the above mentioned Law of Ukraine "On product sharing agreements", as regards execution of Cl. 5 and 6 by mining enterprises which have a geological exploration and production license;
- project preparation and adoption of a separate Law of Ukraine "On the principles of stimulating the demand for domestic mining and metallurgic products and other industrial raw materials of top priority for the development of the domestic Ukrainian market and creation of new jobs."

The received money could make a powerful and stable (long-term) basis for carrying out economic reforms and national projects.

8. Systemic Productions of Government Authorities' Functional Activity

The most important objective, the real systemic product of state activity must lie in achieving the social balance. The essence of such product is ensuring the social stability and national domestic security and preserving the constitutional arrangement. It is dominant in a definition and balance of social relations as well as achieving truly equal opportunities, which, in turn, will ensure the long-term development of the nation. After all, it contains an assessment of the level and critical mass (allowability) of material stratification of major groups of population and country's regions, a striking "dispersion" of average income levels per capita, which exists within them.

Social balance is the main criterion for direct economic assessment of the society development level in general.

For decades and centuries, the mankind has worked out quantitative measurements and qualitative evaluations of a great number of relevant indicators. And this process is still in progress. There is a growing number of tools for public interests regulation and mechanisms of implementation based on the "balance-counterbalance" principle.

Experience shows, however, that even in supposedly the most fairly arranged countries this process cannot be embraced in advance and to the full extent, let alone formalized.

Moreover, interests and living conditions constantly change and improve. This fact raises the performance requirements to government agencies and public regulation bodies.

Let us put it more straightforwardly: the above said entities are required to be more and more professional in their adequacy and ability to directly match the interests of an individual with those of the whole society (in the forms of integral development indicators for the country or a region).

Employees of a state regulation body must also have a certain feel, an intuition to identify an estimate or a development concept which will lead to the required result in the development of the individuals and the society.

Such abilities must allow a creative employee to identify, for example, in the context of transition period of post-Soviet countries, a really reasonable policy at each stage of the process: dosing the market level or the required regulation level. For example, how to outline an appropriate policy in this process, how to remove (in oneself!) the illusions about omnipotence of the market and the ostensibility of cheap investments from the real life after more than 20 years of Ukraine's existence under conditions of capitalism, single out really relevant directions which can also solve the current problems of living standard improvement, and lay the basis for the further development. For the time being, high-ranking state managers must clearly understand the following: national strategy of economic development of Ukraine is the one that, in the years to come, will ensure the highest GDP volumes, new jobs and employment of people and European level of their wellbeing. And to achieve this, we must not only wait, but organize the purposeful work of executive authorities.

We must put an end to the precedents of venturing at random or under the pretext of political expediency and such other things in strategy development and decision making. And as regards the highest level of the state government – the Cabinet of Ministers – it is necessary to radically reorganize its activity to make it function-focused (relevant methods) and divert from traditional industry-based approaches (by separate types of activity).

The main functions and methods are: economic structure reorganization, domestic market, economic space, population and employment, social balance. And it is fair to say that it will not take long before the gravity center of world standards of social and economical analysis moves from the Leontiev's "input-output" and Stone's national accounts to the system of the above listed functions, *supramacroeconomic values*. Because they are the most adequate graphic and spatial interpretation of economic condition assessment and further multifactor influence on the social system effectiveness in general. It is the above listed functions and methods that will lie at the root of supramacroeconomic management as such, which is so needed now.

Today, supramacroeconomic level is an inexplicit margin between sociopolitical life and the closing phase apex of economical processes that take place in actual economic, financial, and other spheres and are aimed, one way or another, at ensuring the maximum compliance of the economic functions with the current structure of social needs. It is in this margin, but not at the subordinate macroeconomic level, as some researchers think, that the nature of a state's political arrangement existing at each particular period is revealed. And the government – the Cabinet of Ministers – must have a structure consistent with supramacroeconomic functions and indicators, i.e. literally have appropriate departments.

Such interpretation of supramacroeconomic management, the specifics of its "mounting" in the real public management process (which is the top of the whole structure of the national economy in its methodological definition) can naturally make us expect real results in the foreseeable future. We shall spare no effort to support and put it into life in our countries.

Application of our systemic production tools must subsequently lead to a specialization of supramacroeconomic functions and a definition of operating methods for high-ranking state managers.

The notion of management initially implies a certain anticipation, designing (or planning) of management process and program control, which is used very rarely and irregularly by public servants (officers) in their work (Note 7).

Let us take, for instance, a problem of rehabilitation of domestic industry and economic modernization. How, not speculatively, but in a project-based and pragmatic way, to distribute and schedule the required reforms in a 5-8-year perspective. Which methods and analytical tools shall we apply for this purpose?

The first group of such tools consists in the ability to make predictive calculations of quantitative values (or qualitative characteristics) of macroeconomic or other performance for the years of the perspective covered by our plans and intentions.

They include: GDP volumes, population size and structure, GDP per capita, state and consolidated budget volumes, salary rates, employment, number of jobs in the country, amounts of tax revenues for the treasury (corporate and personal income tax, value added tax), volume of products (services) sold by individual types of activity, capital goods volumes. This also includes other indicators relating, for example, to the GDP formation.

The second group comprises systemic or supramacroeconomic concepts like measures, trends of domestic market development, potential changes in the structure of industry, agriculture, and other branches and fields of activity, expected transformations in the economic and social space of the country, etc.

This group is basic for the future project programming of each of the activity spheres of the country and its development in general. Supramacroeconomic objects are involved not as artificial or fragmentary and limitedly periodical items (based on reporting dates only), which is observed today. They must be direct and relevant tools of evaluation and influence of the highest level of management on the economic condition and state of the society. They will be both the goals and, at the same time, the levers of advance in a desperate growth of our people's wellbeing and progress of effective economy and human activity as a whole. In other words, they must be the "players" of operational environment, and it is at the supramacroeconomic level of economic regulation that they will arise.

The third group consists of programming of the prospects of economic target management systems and social development, both as a whole and by individual directions of development (economic, social, public).

Thus, we have outlined the object and the subject of state management project- and program-based activity and hence defined the basis of systemic productions of functional activity. In doing this, we have kept in mind the essence of national economy as such, in a conception characterized by completeness, integrity, and consistency of the national economy.

Finally, considering the issues outlined in this article, we cannot but pay our attention to their contiguous and relevant subject – improvement of social structure and management system. Particularly, this refers to the place and role of democracy, as well as singling out and emphasizing the Christian democracy and its universal mission (including the author's works). But this will be discussed in future articles.

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Notes

Note 1. Not infrequently, in their advocacy of purely market basics of economic functioning, some economists encourage to back away from the natural duties of the state to create job opportunities for its citizens, thus ensuring a required number of jobs. Thereby they reject the duty of the executive authorities to raise the minimum level of wellbeing.

Note 2. For details see Kozhurin, 2013.

Note 3. Based on Fig. 1, at least three systemic productions can be derived.

Note 4. The unit used there is hryvnia, the national currency of Ukraine. In 2013, \$1 ≈ 8 hryvnias.

Note 5. The situation in many ways similar to such changes in the economic structure was observed in Russia after 1991. The raw material orientation of the Soviet economy in the last years of the USSR existence was strongly criticized, which was justified. Later on, not only flawed economic structure in the Russian Federation failed to improve, but it rather deteriorated. And no one seriously criticizes itself for such deterioration. But such a situation is expected to be the government's concern, for the consequences of the indifference of the latter is a low per capita income and low employment, let alone the application of high technologies in the production.

Note 6. We have offered the above proposals to the highest authorities. But it looks, for the time being, that the state management is not ready for such radical measures and advanced projects. For this reason, the author is seeking understanding in developed countries.

Note 7. In practice, however, the things do not look so simple. It is easier and less bothersome for employees to evade their duties of such type, referring to an assumption that the management functions are beyond the state's competence under conditions of market economy. It means that they do not need to strive and devise and raise budget revenue sources. As a consequence, we have the poorest in Europe public health service, education, continuous deficiency of the pension and other social funds, while the necessity of state management, its project- and program-based work is only mentioned.