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**THE ESSENCE OF STRUCTURAL SHIFTS AND
THEIR MANIFESTATIONS IN ECONOMY**

The article studies the essence and the peculiarities of structural shifts in economy. The level system of their manifestations is presented along with the range of structural shifts determinants. The functional role of a structural shift is determined as well as their interrelation with the processes of economic development.

Keywords: structural shifts; structural transformation; structural policy; structural disparities.

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**СУТНІСТЬ СТРУКТУРНИХ ЗРУШЕНЬ ТА ОСОБЛИВОСТІ
ЇХ ПРОЯВІВ В ЕКОНОМІЦІ**

У статті досліджено сутність та особливості структурних зрушень в економіці. Розкрито рівневу систему проявів та сукупність детермінант структурних зрушень. Визначено функціональне призначення структурних зрушень та їх взаємозв'язок з процесами економічного розвитку.

Ключові слова: структурні зрушення; структурна трансформація; структурна політика; структурні диспропорції.

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Владимир А. Онищенко, Татьяна В. Романова
**СУТЬ СТРУКТУРНЫХ СДВИГОВ И ОСОБЕННОСТИ
ИХ ПРОЯВЛЕНИЙ В ЭКОНОМИКЕ**

В статье исследованы сущность и особенности структурных сдвигов в экономике. Раскрыты уровневая система проявлений и совокупность детерминант структурных сдвигов. Определено функциональное назначение структурных сдвигов и их взаимосвязь с процессами экономического развития.

Ключевые слова: структурные сдвиги; структурная трансформация; структурная политика; структурные диспропорции.

Problem statement. Aggregative influence of state regulation mechanisms and market environment self-regulation shapes the dynamics of changing qualitative and quantitative features of national economy. These changes are manifested through structural shifts, the emergence and functioning of which determine the transformation of the economic system. Determination of structural changes can be also manifested through positive trends of economic environment functioning optimization, but at the same time structural changes can reveal themselves through structural disparities. A combination of factors determines the dominant direction in the processes dynamics, and being the duality as such, structural shifts are the decisive factors from the viewpoint of efficient structural policy development. Deeper understanding of the essence of structural shift enables us to perform further in-depth research into the nature of their origin so that to identify more specifically the determining factors inside these processes.

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Detecting the interconnections between economic processes of various order with the structural shifts is the precondition for the formation of the comprehensive and in-depth image of the economic system functioning.

Recent research and publications analysis. Issues of structural modernization of national economy have been studied by quite many Ukrainian researchers, including: O. Amosha (2011), Yu. Bazhal (2002), S. Bila (2001), A. Chukhno (2006), L. Fedulova (2010), A. Galchynskiy (2012), V. Heets (2011), M. Khvesyk (2012), O. Melnychenko (2012), A. Melnyk (2012), Yu. Pylypenko (2006), L. Shablita (2003), S. Yerokhin (2014).

These and other scholars reveal the essence of structural processes and ground the methodology of their planning and forecasting. However, despite the obvious scientific value of the available research, additional substantiation is needed regarding the nature and the essence of structural shifts, the process of their origin and their functional interaction with the elements of the economic system in Ukraine.

The aim of this article is to extend the studies in the field of structural shifts as the key factors determining economy transformation and shaping the theoretical framework for efficient structural policy.

Key research results. Today integration processes aimed at economic growth are impossible without structural dynamic changes. Dynamics of structural changes reveals changes in internal contents of the objects under study as well as in their economic interpretation which lead to changes in the cause-effect relation. This is why this issue is so important for contemporary economic science and thus requires solutions for a range of the related tasks (Boiko, 2008: 29).

There exist various approaches to understanding of the "structural shifts" notion, for example:

1) structural shift – as a shift in the structure of the systems of interests and demands of economic entities and their groups (states, corporations, households etc.), the indicators of changes in economic relations and their interconnections (Kavtysh, 2013: 18);

2) structural shift – as a change in conditions and final results of economy performance as a whole, and also in its separate subjects under the influence of market mechanisms as well as the mechanisms of public regulation, that is in quantitative and qualitative features of the systems, in shares, location of elements within the system etc. (Melnychenko, 2012: 134);

3) structural shifts in the structure of national production – these are essential changes in interrelations and interdependencies between the elements and in the laws which regulate them leading to new quality of the economic system as a whole (Krykhtin, 1998: 8);

4) structural shifts as a change in system interrelations which precondition the modifications of basic quantitative and then qualitative features of the system (Kolomytseva, 2008: 188).

We consider structural shifts in economy as changes in the state of interrelated elements at various levels of its functioning accompanied by qualitative changes in their interrelations and described by fluctuating shares of these elements revealed in quantitative features which can be predetermined by endogenous and exogenous factors. The suggested approach also covers the applied side of the notion in question,

thus, revealing not only its essence but also describing the manifestations of structural shifts along with their causes.

Structural shifts can manifest themselves at various levels of economic system functioning (Figure 1).

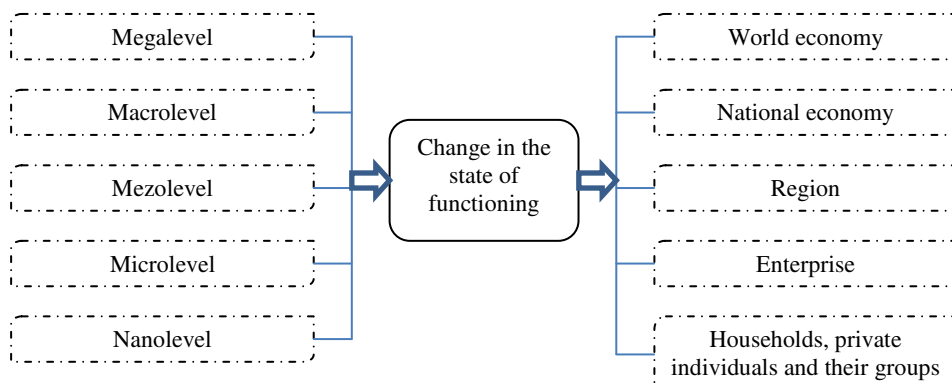


Figure 1. Levels of structural shifts, authors'

Changes in elements allocation within economic systems, in their shares or in their complex segments as well as in quantitative and qualitative features of economy can follow a rather rational strategy of development and can take place within the framework of a planned structural policy.

The main manifestations of structural shifts in economic system are changes in GDP level, in production volumes by separate types of economic activity; in cross-regional and intersectoral disproportions; in volumes, structure and objects of investment; in the balance between production of manufacturing means (the so-called group A of industrial branches) and production for consumption purposes (group B of industries); in the structure of population incomes and expenditures (Melnychenko, 2012: 132); in the structure of consumption and savings; in the ratio of qualitative features of various sectors and branches of the economy.

The lowest level of structural shifts manifestations is the nanolevel of the economy. The very notion of "nanoeconomics" was first used by Nobel Laureate Kenneth Arrow back in 1987 and later was further developed in the works of Russian economist G.B. Kleiner (2004: 71) who considered nanoeconomics as a field of economic science the study objects of which are the internal processes within enterprises and organizations, the mechanisms of decision-making and the factors of influence on these decisions which are made by private individuals and their groups. Nanolevel of the economy is the manifestation of individual participants' behavior within the processes of production, distribution and consumption (Kleiner, 2004: 76). Thus, changes at the nanolevel of an economic system are characterized by changes in economic interests and necessities of private individuals, households as well as in relevant changes in the structure of individual demand and consumption (Usatyi and Belokrylova, 2003: 9). An obvious example of nanoshifts having further influence on the dynamics of structural changes in the economy is a shift in the structure of aggregate resources and in households' spending.

Data in Figure 2 shows that the volumes of both resources and expenditures of households within the period in question had the growth trend. Let us apply formula (1) to calculate the mass of structural shifts (Usatyi and Belokrylova, 2003: 33; Krasilnikov, 2001: 18):

$$M = D_1 - D_0, \quad (1)$$

where M – the mass of structural shift; D_1 – the share of structural element in the current period; D_0 – the share of structural element in the base period.

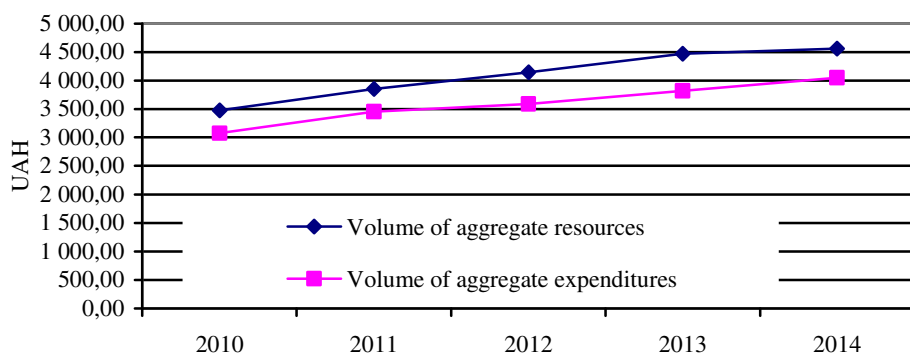


Figure 2. Dynamics of aggregate resources and aggregate expenditures of households in Ukraine, 2010–2014, constructed according to (Natsionalni rakhunky..., 2016)

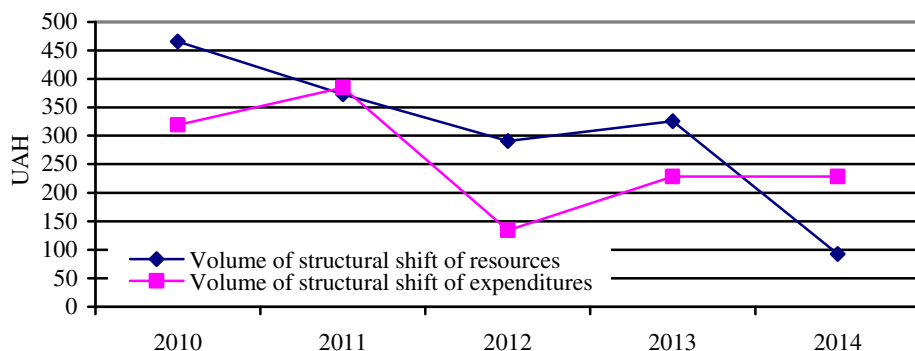


Figure 3. Dynamics of changes in the volumes of structural shifts of resources and of households' expenditures in Ukraine, 2010–2014, constructed according to (Natsionalni rakhunky..., 2016)

This would allow us calculating the mass of structural shifts and to present its dynamics graphically (Figure 3). This figure shows that under general growth as such there are significant differences in the dynamics of volumes of these structural elements. In this case we can observe the gradual decrease of mass in the shifts of resources manifested through slowing down rates of growth during the time period since 2010 till 2014, while the general trend of their volumes was actually growing. Change in the mass of structural shift has a rather uneven dynamics on the background of general growth of volumes. This peculiarity finds its manifestation while

using the method of structural evaluation of the related elements, this is why studying structural shifts must be based not only on the aggregate dynamics of the indicators analyzed, but also take into account the peculiarities of changes in structural features, in our case – the mass of structural shift.

To the most significant structural shifts belong the changes which take place on the macrolevel of the economic system. Quite an illustrative example of structural shift of this level is the dynamics of GDP indicator. The analysis of changes in Ukraine's GDP level during the recent years demonstrates that the volumes of nominal GDP per capita in Ukraine in 2014 went down by 951 USD, reaching the level of 2979 USD which is lower than the same indicator for Belarus (in 2.8 times), Romania (in 3.4 times), Poland (in 4.8 times) and the average EU level (in 12.2 times) (Pro vnutrishne ta zovnishne..., 2015: 231). Overall, during the period analyzed the dynamics of GDP development was rather unstable (Figure 4).

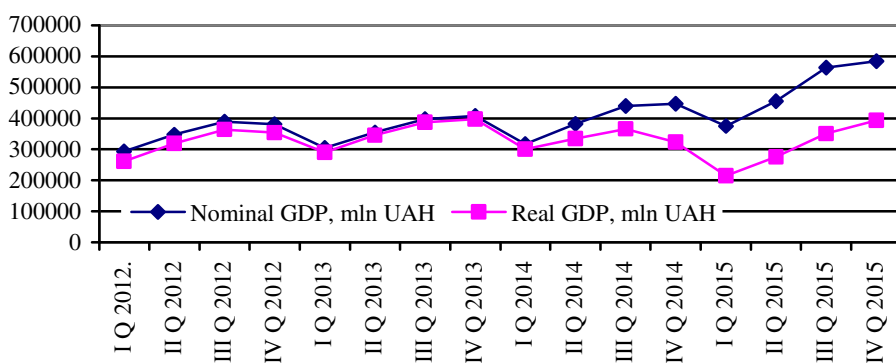


Figure 4. **Ukraine's GDP dynamics, 2012–2015,**
built on the data from (ukrstat.gov.ua)

During the recent years Ukrainian economy has been under the severe impact of external and internal disbalances. Negative structural shifts have been manifested through the growing difference in the volumes of real and nominal GDP which shows that inflationary processes in the country have been intensifying.

One of the key manifestations of structural shifts are changes in the balance of quantitative indicators of economic sectors according to structural changes on the mezolevel of the economic system. As Figure 5 demonstrates, the largest share in the total volume of economic activity types during the years 2010–2014 belonged to: processing industries; agriculture, forestry and fisheries; wholesale and retail trade; transport and warehousing, and also mining sector. For the better picture of the structural shifts processes we need to analyze the dynamics of their mass (Figure 6), and on its grounds we can conclude that the largest structural shifts take place in the processing industry, agriculture, forestry and fisheries. At this, the most stable functioning demonstrates the sector of wholesale and retail trade.

Table 1 presents the dynamics of the gross added value for the key types of economic activity during 2010–2014. At this, other types of activities, namely, professional, research and technical activity, information and telecommunications, construction etc. have the gross added value lower than 4%. Analysis of Table 1 verifies

that structural shifts taking place in economics during the recent years are characterized by significant technological lagging behind. The largest share in the structure of gross value added has industry and agriculture, while in the developed countries of the world this largest share normally belongs to the services sector. At the same time, changes which took place during the time period in question, demonstrate there was a gradual decrease of the share of industries and parallel growth of the share of real estate operations. Accordingly, there was also a growth of the share of services in the overall structure of added value. Therefore, we can state that in Ukraine there is a slow and gradual process of structural modernization taking place according to the models of the developed countries.



Figure 5. Dynamics of the production structure by key types of products (works, services) by types of economic activity in Ukraine during 2010–2014, built on the data from (Natsionalni rakhunky..., 2016)

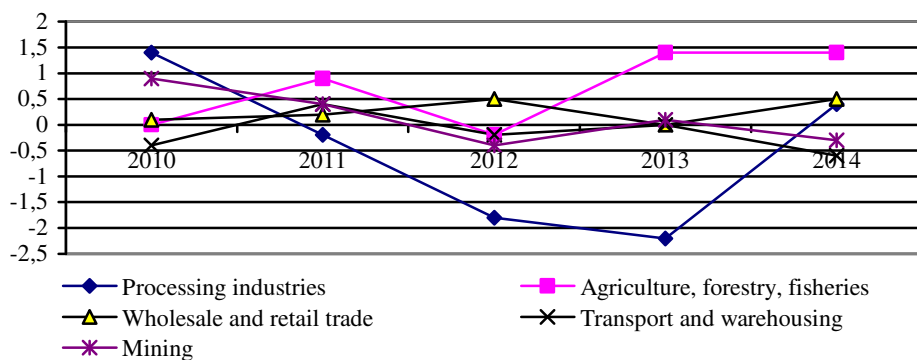


Figure 6. Dynamics of the mass of structural shifts among the production of key types of products (works, services) by types of economic activity in Ukraine, 2010–2014, built on the data from (Natsionalni rakhunky..., 2016)

Key problems on the way to structural modernization and better adaptive features of national economy in accordance to global economic space are:

- intensification of global competitive struggle for innovative and intellectual resources which help form national competitive advantages;
- currently national economy is rather low technologically and has rather inconvenient conditions for participation in international labour division;

- depletion of current competitive advantages in Ukrainian economic sectors oriented on external demand due to higher prices on imported energy resources;
- lack of efficient mechanisms for capital redistribution from traditional to high-tech sectors of the economy;
- unsufficient use of innovative potential as the key factor of economy's adaptation and stronger national competitiveness (Shchodo osnovnykh zasad..., old.niss.gov.ua).

Table 1. The structure of gross added value by types of economic activity, %, constructed on the data from (Pro vnutrishne ta zovnishne..., 2015)

Types of economic activity	2010	2011	2012	2013	2014
Agriculture, forestry, fisheries	8.4	9.4	9.0	9.9	11.8
Mining and quarrying	6.5	7.3	6.5	6.2	5.8
Processing industries	14.8	13.6	14.1	12.7	13.1
Wholesale and retail trade; repair or various transport vehicles	16.4	17.3	16.7	16.7	16.4
Transport and warehousing; mailing and carrier services	8.8	9.3	8.2	8.2	8.0
Operations with real estate	6.0	6.2	6.9	7.4	7.5
Public administration and defense; mandatory social insurance	5.4	4.9	5.1	5.5	5.5
Education	5.6	5.3	6.0	6.1	5.7
Healthcare and social security	4.2	3.9	4.2	3.9	4.1

All structural shifts are very much predetermined by the factors shaping their origin and development (Figure 7).

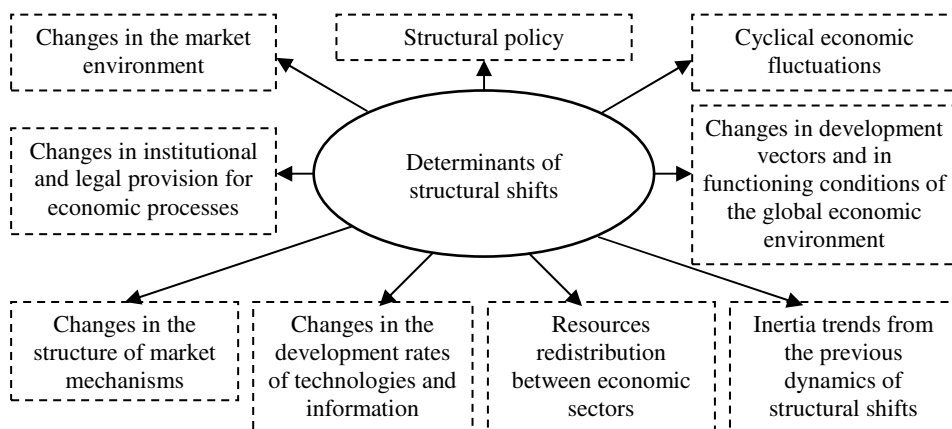


Figure 7. Determinants of structural shifts, authors'

Structural shifts can cause both positive and negative changes in economic systems. That's why by their consequences they can be classified into positive, negative and mixed. Thus, combination of changes between the elements of economic system which promote the development and optimization of its structure, can be attributed to positive structural shifts. Structural shifts which cause destructive processes in economy, complicate the dynamics of its evolutionary transformation, are attributed as negative ones. However, a large share of structural shifts has both negative and positive influence on the economy. This is explained by the comprehensive and multilevel system of structural shifts which is difficult to forecast within the corresponding econo-

mic policy, besides, economic system itself might have rather unpredicted reactions to changes in its structure. This type of structural shifts can be attributed to mixed ones, that is, those which at the same time have both negative and positive consequences.

Thus, a good example of mixed shifts in the economy are changes in the structure of aggregate capital investments and in the share of foreign investments in them (Figure 8).

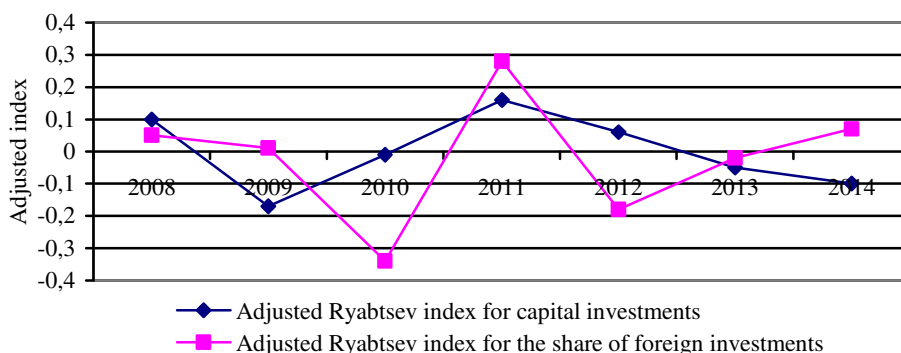


Figure 8. The dynamics of correlation between the indices of structural shifts in aggregate capital investments and in the share of foreign investments, constructed according to (Pro vnutrishne ta zovnishne stanovyshche..., 2015)

In this case of analysis we have applied the Ryabtsev index (Ryabtsev, 2002: 32), since it provides an opportunity to compare the structural volumes of different quantitative orders. Ryabtsev index is calculated by the formula:

$$I_{Ryabtsev} = \sqrt{\frac{\sum (d_1 - d_0)^2}{\sum (d_1 + d_0)^2}}, \quad (2)$$

where d_0 – the share of structural element in the aggregate for the base period; d_1 – the share of structural element in the current period.

However, since this index takes into account structural differences disregarding their positive or negative sign, the authors of this article suggest for further use in the analysis the adjusted Ryabtsev index which we offer to determine by the formula:

$$I_{Ryabtsev}^{adj} = \sqrt{\frac{\sum (d_1 - d_0)^2}{\sum (d_1 + d_0)^2}} \times \frac{|d_1 - d_0|}{d_1 - d_0}. \quad (3)$$

Data in Figure 8 shows that during 2008–2009 there was a negative structural shift in the structure of capital investments manifested through the fall of indices for both structural elements which was the consequence of the economic crisis. During the period 2010–2011 there was a positive structural shift manifested through a significant growth of index for both structural elements. During 2012–2014 a mixed structural shift was observed, manifested through the fall of the index of aggregate volume of capital investments accompanied by the growth in the volumes of capital foreign investments.

Also important is to take into account the ratio of cyclicity and fluctuations in the economy according to structural shifts since the emergence of both depends on

changes in the economic system. There exist quite many economic cycles, each having its own features, causes and consequences. Smaller cycles have rather narrow scope of manifestations, that is, their changes taking place in an economic system are manifested in such a volume which is insufficient for the emergence of structural shifts. For example, surface fluctuations in the economy are not followed by a significant change in economic structure, and they do not cause changes in economic resources' allocation or in the interests of economic subjects. To this type of cycles belong commercial cycle which is described by overproduction and normally lasts for about 2 to 4 years. At the same time, longer economic cycles are followed by significant changes in economic structure. In particular, here belongs the so-called technical cycles which last from 40 to 60 years, and also the well known Kondratiev long waves.

Economy's cyclicity causes structural shifts but considering their transformational nature, we can make a conclusion that each cycle is caused by significant mixed shifts in the economic system. Since the nature of structural shifts is preconditioned not only by economic features, but also by the state influence on it, we should mention also that their emergence can serve as a means to overcome cyclical crises which are accompanied by significant negative phenomena in economy's functioning. Thus, structural shifts are manifested as a dual phenomenon which can be both a cause and a consequence, depending on active or inertial nature of their emergence.

Efficient structural policy is able to initiate the processes of structural shift in an artificial way (Figure 9), and this may serve as the basis for further structural modernization, and also may serve as the factor of negative trends overcoming in economy cyclicity aiming at more dynamic economic development.

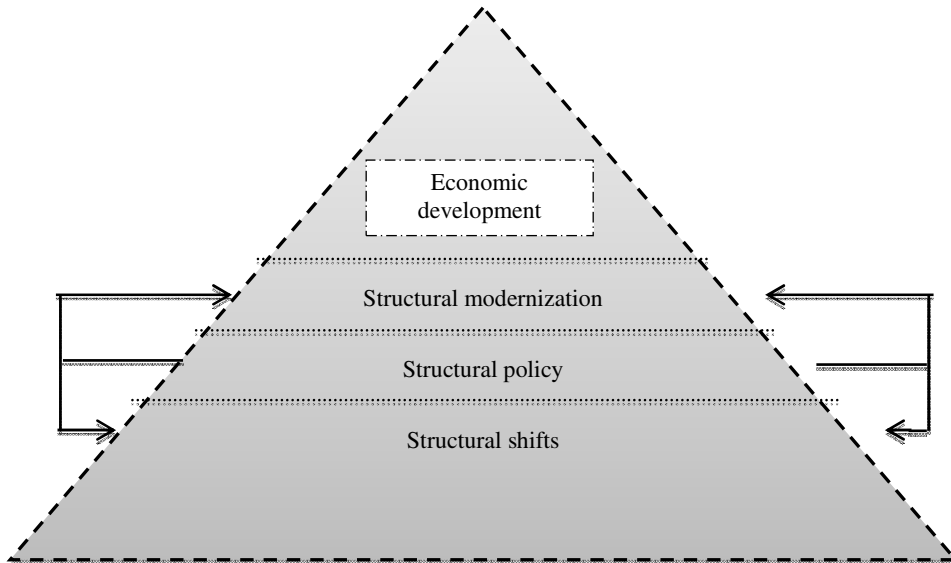


Figure 9. **Connection between structural policy and the stages of economic system transformation, authors'**

At the current stage of economic systems development to the key production factors belong labour, capital and land, and also recently joined – investment in research and advanced technologies as well as human capital (manifested mostly

through education and health) (Nelson, 1996: 15). This is why the structural policy of Ukraine must be oriented on stimulation of high-tech production and use of human intelligence potential. This would enable successful integration of national economy into the world one. Optimization of the process of innovative potential use within the economic system is possible once gaps in market economy's functioning are overcome. Interrelation of state and market regulation and their cumulative influence on economic system shape the trends of structural transformation. Under the economic development planned strategy implementation the key task of structural policy is to overcome the structural disproportions through initiation of the corresponding structural shifts (Figure 10).

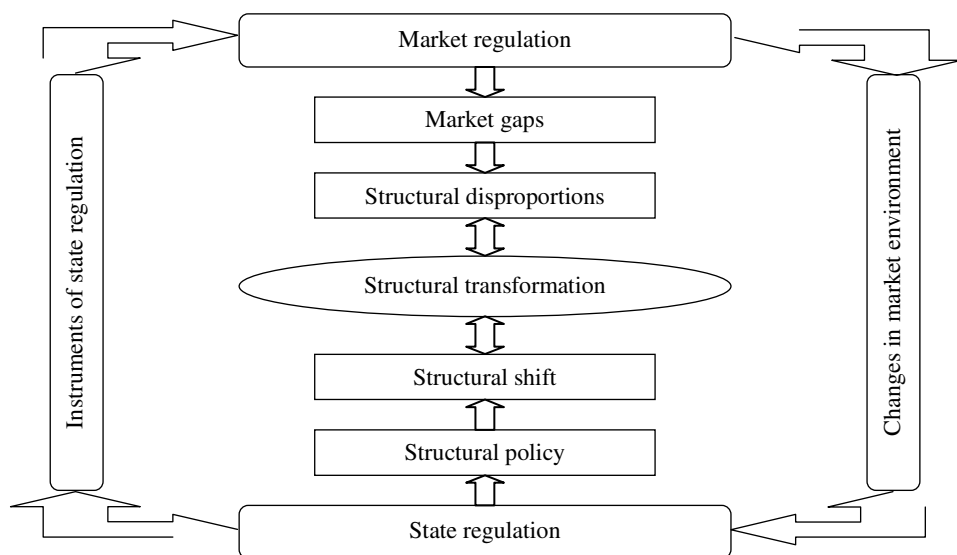


Figure 10. **System of structural transformation of the economy, authors'**

Thus, the essence of structural shifts as well as their influence on economy's functioning precondition the list of functions to be performed during the development, evolution. In this way structural shifts support:

- the implementation of the objective law of social demands growth;
- compliance between the structure of consumption and that of production;
- distribution and redistribution of resources between economic sectors;
- formation of key value shares in the reproduction shares (Galystyn et al., 2013: 64);
- rate and vector of internal economic environment development in accordance with the global trends of economic evolution;
- changes in the structure of economy according to the dynamics of scientific and technical progress, or in some cases – its reverse development;
- renewal and optimization of means and methods within an economic policy;
- compensational processes which serve to overcome the crisis cyclical economic phenomena;
- functional aggregation of various manifestations of economic system revealed through the synergy effects of the economic system.

Conclusions. Structural shifts are integral part of any economic system evolution. Complexity of their nature leads to duality in many their manifestations and to a wide range of reasons behind their origin and complex interaction with multi-levels of economic processes. The multi-level system of structural shifts' manifestations promotes the differentiation in economic transformations. Efficient structural policy, having its compensatory influence on overcoming of structural disproportions, forms positive effects on economic system's transformations and is the basis for current economic development. Functional effects from structural shifts play the key role in economy's adaptation to changes in the internal and external environment of the state. Differences in the rates of structural reconstruction of the global and national economic environments leads to lower adaptation of the latter to the former. Therefore, there is a need to support the compliance of these processes functioning which is the key precondition for efficient integration of national economy into the global economic space.

References:

- Біла С.О.* Структурна політика в системі державного регулювання трансформаційної економіки. — К.: УАДА, 2001. — 408 с.
- Bila S.O.* Strukturalna polityka v systemi derzhavnoho rehulivannia transformatsiinoi ekonomiky. — K.: UADA, 2001. — 408 s.
- Бойко О.* Особливості розвитку структурно-динамічних зрушень в економіці України // Національне господарство України: теорія та практика управління. — К., 2008. — С. 29–36.
- Boiko O.* Osoblyvosti rozvytku strukturno-dynamichnykh zrushen v ekonomitsi Ukrainy // Natsionalne hospodarstvo Ukrainy: teoriia ta praktyka upravlinnia. — K., 2008. — S. 29–36.
- Галицин В.К., Суслов О.П., Галицина О.В.* Структурно-функціональний аналіз та моделювання розвитку економіки: Монографія. — К.: КНЕУ, 2013. — 377 с.
- Halitsyn V.K., Suslov O.P., Halitsyna O.V.* Strukturalno-funktsionalnyi analiz ta modeliuvannia rozvytku ekonomiky: Monohrafiia. — K.: KNEU, 2013. — 377 s.
- Гальчинський А.* Економічний розвиток: методологія оновленої парадигми // Економіка України.— 2012.— №5.— С. 14–17.
- Halchynskyi A.* Ekonomichnyi rozvytok: metodolohiia onovlenoi paradyhmy // Ekonomika Ukrainy.— 2012.— №5.— S. 14–17.
- Горняк О.В., Пилипенко Ю.І.* Структурна політика України в умовах глобалізації світового господарства // Економічний вісник Національного гірничого університету.— 2014.— №3.— С. 9–16.
- Horniak O.V., Pylypenko Yu.I.* Strukturalna polityka Ukrainy v umovakh hlobalizatsii svitovoho hospodarstva // Ekonomichnyi visnyk Natsionalnoho hirnychoho universytetu.— 2014.— №3.— S. 9–16.
- Економічна оцінка державних пріоритетів технологічного розвитку / За ред. д-ра екон. наук Ю.М. Бажала. — К.: Ін-т економ. та прогноз., 2002. — 320 с.
- Економічна оцінка державних пріоритетів технологічного розвитку / За ред. д-ра екон. наук Ю.М. Бажала. — К.: Ін-т економ. та прогноз., 2002. — 320 с.
- Єрохін С.А.* Політика модернізації і механізми зміни секторальної структури економіки // Економічний простір.— 2014.— №87.— С. 50–60.
- Yerokhin S.A.* Polityka modernizatsii i mekhanizmy zminy sektoralnoi struktury ekonomiky // Ekonomichnyi prostir.— 2014.— №87.— S. 50–60.
- Кавтун О.П.* Структурна політика як основа модернізації національного господарства в сучасних умовах // Економічний вісник Національного технічного університету України «Київський політехнічний інститут».— 2013.— №10.— С. 16–22.
- Kavtysh O.P.* Strukturalna polityka yak osnova modernizatsii natsionalnoho hospodarstva v suchasnykh umovakh // Ekonomichnyi visnyk Natsionalnoho tekhnichnoho universytetu Ukrainy «Kyivskyi politekhnichnyi instytut».— 2013.— №10.— S. 16–22.
- Квартальні національні рахунки // Державний служба статистики України // www.ukrstat.gov.ua.
- Квартальні національні рахунки // Derzhavnyi sluzhba statystyky Ukrainy // www.ukrstat.gov.ua.

- Клейнер Г.Б. Нанoeкономика // Вопросы экономики.— 2004.— №12.— С. 70—93.
- Kleiner G.B. Nanoeconomika // Voprosy ekonomiki.— 2004.— №12.— S. 70—93.
- Коломийцева О.В. Структурні зрушення в економіці: сутність і напрями трансформації // Продуктивні сили і регіональна економіка.— 2008.— Ч. 2.— С. 186—191.
- Kolomytseva O.V. Strukturni zrushennia v ekonomitsi: sutnist i napriamy transformatsii // Produktivni syly i rehionalna ekonomika.— 2008.— Ch. 2.— S. 186—191.
- Красильников О.Ю. Структурные сдвиги в экономике: Монография. — Саратов: СГУ, 2001. — 161 с.
- Krasilnikov O.Iu. Strukturnye sdvigi v ekonomike: Monografiia. — Saratov: SGU, 2001. — 161 s.
- Крихтін О.Є. Структура національного виробництва у трансформаційній економіці України: Автореф. дис... канд. екон. наук: спец. 08.00.01 — Економічна теорія. — Д., 1998. — 19 с.
- Krykhtin O.Ie. Struktura natsionalnoho vyrobnytstva u transformatsiinii ekonomitsi Ukrainy: Avtoref. dys... kand. ekon. nauk: spets. 08.00.01 — Ekonomichna teoriia. — D., 1998. — 19 s.
- Мельниченко О.А., Миколюк В. Структурні зрушення в національній економіці як об'єкт та результат державної структурної політики // Публічне управління: теорія та практика.— 2012.— №4.— С. 131—135.
- Melnychenko O.A., Mykoliuk V. Strukturni zrushennia v natsionalnii ekonomitsi yak ob'iekt ta rezultat derzhavnoi strukturnoi polityky // Publichne upravlinnia: teoriia ta praktyka.— 2012.— №4.— S. 131—135.
- Національні рахунки України за 2014 рік: Статистичний збірник. — К.: Державна служба статистики України, 2016. — 179 с.
- Natsionalni rakhunky Ukrainy za 2014 rik: Statystychnyi zbirnyk. — K.: Derzhavna sluzhba statystyky Ukrainy, 2016. — 179 s.
- Пилипенко Ю.І. Технологічна структура національної економіки: теорія, практика та регулювання: Монографія. — Дніпропетровськ: Національний гірничий університет, 2010. — 202 с.
- Pylipenko Yu.I. Tekhnolohichna struktura natsionalnoi ekonomiky: teoriia, praktyka ta rehuliuвання: Monohrafiia. — Dnipropetrovsk: Natsionalnyi hirnuchyi universytet, 2010. — 202 s.
- Про внутрішнє та зовнішнє становище України в 2015 році: Аналітична доповідь до Щорічного послання Президента України до Верховної Ради України. — К.: НІСД, 2015. — 684 с.
- Pro vnutrishnie ta zovnishnie stanovyshche Ukrainy v 2015 rotsi: Analitychna dopovid do Shchorichnoho poslannia Prezydenta Ukrainy do Verkhovnoi Rady Ukrainy. — K.: NISD, 2015. — 684 s.
- Рябцев В.М., Чудилин Г.И. Структурно-динамический анализ индикаторов инвестиционно-го климата в Самарской области // Вопросы статистики.— 2002.— №3.— С. 30—38.
- Riabcev V.M., Chudilin G.I. Strukturno-dinamicheskii analiz indikatorov investitsionnogo klimata v Samarskoi oblasti // Voprosy statistiki.— 2002.— №3.— S. 30—38.
- Структурні зміни та економічний розвиток України: Монографія / В.М. Геєць, Л.В. Шинкарук, Т.І. Артюмова та ін.; За ред. д-ра екон. наук Л.В. Шинкарук; НАН України; Ін-т екон. та прогнозув. — К., 2011. — 696 с.
- Strukturni zminy ta ekonomichnyi rozvytok Ukrainy: Monohrafiia / V.M. Heiets, L.V. Shynkaruk, T.I. Artomova ta in.; Za red. d-ra ekon. nauk L.V. Shynkaruk; NAN Ukrainy; In-t ekon. ta prohnouzuv. — K., 2011. — 696 s.
- Структурні реформи економіки: світовий досвід, інститути, стратегії для України: Монографія / О.І. Амоша, С.С. Аптекар, М.Г. Білопольський, С.І. Юрій та ін.; ІЕП НАН України, ТНЕУ МОНМС України. — Тернопіль: Економічна думка ТНЕУ, 2011. — 848 с.
- Strukturni reformy ekonomiky: svitovy dosvid, instytuty, stratehii dlia Ukrainy: Monohrafiia / O.I. Amosha, S.S. Aptekar, M.H. Bilopolskyi, S.I. Yurii ta in.; IEP NAN Ukrainy, TNEU MONMS Ukrainy. — Ternopil: Ekonomichna dumka TNEU, 2011. — 848 s.
- Структурні трансформації в національній економіці: проблеми діагностики та інституційного забезпечення: Монографія / За ред. д-ра екон. наук, проф. А.Ф. Мельник. — Тернопіль: ТНЕУ. — 532 с.
- Strukturni transformatsii v natsionalnii ekonomitsi: problemy diahnostyky ta instytutsiinoho zabezpechennia: Monohrafiia / Za red. d-ra ekon. nauk, prof. A.F. Melnyk. — Ternopil: TNEU. — 532 s.
- Усатый П.С., Белокрылова О.С. Структурные сдвиги в региональной экономике: Монография. — Ростов н/Д.: РГУ, 2003. — 177 с.
- Usaty P.S., Belokrylova O.S. Strukturnye sdvigi v regionalnoi ekonomike: Monografiia. — Rostov n/D.: RGU, 2003. — 177 s.

- Федулова Л.І. Технологічний розвиток економіки України. — К.: Ін-т економіки і прогнозування, 2006. — 627 с.
- Fedulova L.I. Tekhnologichnyi rozvytok ekonomiky Ukrainy. — K.: In-t ekonomiky i prohnozuvannia, 2006. — 627 s.
- Хвесик М., Бистряков І. Парадигмальний погляд на концепт сталого розвитку України // Економіка України. — 2012. — №6. — С. 4—12.
- Khvesyk M., Bystriakov I. Paradyhmalnyi pohliad na kontsept staloho rozvytku Ukrainy // Ekonomika Ukrainy. — 2012. — №6. — S. 4—12.
- Чухно А.А. Твори: У 3 т. / НАН України, Київ. нац. ун-т ім. Т. Шевченка, Наук.-дослід. фін. ін-т при М-ві фін. України. — К., 2006. — Т. 2: Інформаційна постіндустріальна економіка: теорія і практика. — 512 с.
- Chukhno A.A. Tvory: U 3 t. / NAN Ukrainy, Kyiv. nats. un-t im. T. Shevchenka, Nauk.-doslid. fin. in-t pry M-vi fin. Ukrainy. — K., 2006. — T. 2: Informatsiina postindustrialna ekonomika: teoriia i praktyka. — 512 s.
- Шаблюста Л.М. Державне регулювання структурних зрушень в економіці України: Автореф. дис... докт. екон. наук: спец. 08.02.03 — Організація управління, планування і регулювання економікою. — К., 2003. — 40 с.
- Shablysta L.M. Derzhavne rehuliuвання strukturnykh zrushen v ekonomitsi Ukrainy: Avtoref. dys... dokt. ekon. nauk: spets. 08.02.03 — Orhanizatsiia upravlinnia, planuvannia i rehuliuвання ekonomikoіu. — K., 2003. — 40 s.
- Щодо основних засад структурно-інноваційної політики України: Аналітична записка Національного інституту стратегічних досліджень при Президентові України // old.niss.gov.ua.
- Shchodo osnovnykh zasad strukturno-innovatsiinoi polityky Ukrainy: Analitychna zapyska Natsionalnoho instytutu stratehichnykh doslidzhen pry Prezydentovi Ukrainy // old.niss.gov.ua.
- Arrow, K. (1987). Reflections on the essays. In: Arrow and the Foundations of the Theory of Economic Policy (pp. 727–734). Ed. G.R. Feiwel. London: Macmillan.
- Nelson, R., Romer, P. (1996). Science, Economic Growth, and Public Policy. Challenge, March-April: 14–17.