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UKRAINIAN ECONOMY: CHAOTIC AND CYCLICAL FLUCTUATIONS AROUND THE LONG-TERM GROWTH TREND

During thirteen of the past 25 years, Ukrainian economy was in crisis, and during the remaining twelve years it was in the state of economic growth. In the scientific community this phenomenon has caused debate: was the frequency of crises and phases of growth a result of the action of random economic shocks or cyclical fluctuations in the economy around its long-term trend of development? Without answering this question it is impossible to develop any forecasts or strategies for future growth of the Ukrainian economy. To solve this problem, the author investigated the dynamics of Ukraine's economy in 1990–2015. As the basis of the research he took the hypothesis that the uneven growth of the Ukrainian economy in the short term was shaped by shocks of external conditions, and in the medium term it was determined by the institutional economic cycles which in turn influenced the formation of the long-term trend of domestic commodity production.

The results of the survey helped gather evidence of the fact that during 1997–2015 in the Ukrainian economy, an economic cycle took place caused by the institutional reforms of 1997–1999 during which the domestic commodity output constantly varied under the shocks of external conjuncture and eventually acquired its own long-term trend of growth. These conclusions made it possible to identify the priorities for future institutional reforms in the domestic economy in order to resume its growth in the medium and long term.

K e y w o r d s : economic growth, institutions, institutional economic cycle, shocks of external conjuncture, domestic market, economic reforms.

J E L : O 4 0 0

Formulating the problem. Of the recent 25 years, Ukrainian economy was in the state of crisis during 13 years, and during 12 years – in the state of growth. It is impossible to develop a strategy for future economic development without a rigorous explanation of this phenomenon, because, in order to create such a strategy, it is important to know if the periodicity of recessions and recoveries is a sign of the action of random positive and negative economic shocks or a result of cyclical fluctuations in commodity output around its long-term growth trend. If it is proven that the periods of crises and recoveries in Ukraine took place randomly, it would mean that in future such periods cannot be either expected or controlled by means of public policy. Conversely, the evidence that the Ukrainian economy fluctuated cyclically around a long-term development trend opens the way to find the levers of public regulation in the direction, which is desired for the society.

Relevance. Today, scientists have no conclusive evidence or rebuttal concerning the cyclical growth of Ukraine's economy and the presence of a long-term de-

velopment trend. Therefore, the literature usually explains the existing fluctuations in its growth with spurts in global commodity markets of steel, grain, mineral products (ore), and chemicals. This explanation is confirmed by empirical observations. Comparative analysis shows the presence of a correlation between international prices for raw materials and the size of Ukraine's GDP in 2002–2014 [1; 2, p. 8]. According to the scientists' calculations, during this period, the correlation ratio between quarterly dynamics of world prices for steel and the dynamics of Ukraine's GDP was 0.61 [3, p. 114].

The only thing that the authors of the concept of stochastic fluctuations of the national economy cannot explain is why Ukraine's economic growth began in 2000, but not in 1994–1997, when the world prices for steel exceeded those of 2000–2003. In addition, there are other facts that cast doubt on the concept of stochastic fluctuations in Ukraine's economy. For example, today we know that the correlations between GDP and foreign trade exist in many open economies.

In particular, American economists has found that the average such correlation in Canada, Germany and the UK exceeds 70%, and between US GDP and output in other countries -46% [4, c. 67]. However, none of those scientists used the above mentioned empirical dependences to deny the cyclical fluctuations of the US economy along its own long-term growth trend, because of the lack of hard evidence for such a denial. For example, only two out of ten large studies conducted by economists from different countries during 1967–1998 partially confirmed that the long-term national economic growth may take place due to the expansion of exports. Long-term relationship between exports and GDP growth was detected only in some countries of Latin America and the newly industrialized countries of Asia (Hong Kong, Taiwan, Singapore and South Korea) [5, p. 14–15].

Insufficient evidence of the concept of stochastic fluctuations in Ukraine's economy urged part of Ukrainian scientists to make an attempt to reveal signs of recurrence in the existing economic dynamics. However, the results of their research showed that economic cycles are not yet characteristic for the development of Ukraine's economy. For example, examining the economic growth of Ukraine in 1996–2009, V.Satsyk concluded that no clear cyclicity is observed in Ukraine's output, and its growth in 2000–2008 can be classified as the phase of recovery in an economic cycle[1] [6, p. 142].

At the same time, Ukrainian scholars A.Vozna and Ya.Zhalilo collected empirical evidence in favor of the fact that, in 2005–2006, Ukraine's economy entered a phase of "overheating", which in autumn of 2008 turned into a recession. However, based on the collected data, they concluded that it was too early to assert the existence of a pronounced business cycle in Ukraine's economy [7, p. 28, 32]. This point of view was also advocated by the authors of the State Program of Domestic Production, approved by the Cabinet of Ministers of Ukraine on 12 September 2011 (No 1130). In particular, the Program states that the period since 1990 had

[1] In particular, V.Satsyk in his study concluded that economic growth in Ukraine 2000–2008 can be recognized a recovery phase of the economic cycle, because its previous upward point (the top of the cycle, which falls on 1990) had not been achieved.

signs of depression caused by the transformational reforms in the economy, and steady growth, according to the classification of economic cycles, could begin in 2012–2015 [8].

Undoubtedly, the lack of conclusive scientific evidence of the existence of economic cycles does not confirm the accuracy of the concept of stochastic fluctuations in Ukraine's economy, but it does not give any grounds for its denial either. However, given the fact that formation of a long-term trajectory of the development of Ukraine's economy under the influence of external situation is not the rule but rather an exception, one can conclude that Ukraine does not have its own long-term growth trend.

Main objective. The article is aimed at providing theoretical and empirical evidence in favor of the fact that, during recent 25 years, Ukraine's economy has gained its own long-term growth trend, around which its chaotic and cyclical fluctuations take place.

Research Methodology. To attain the article's objective, the author puts forward a hypothesis about the ability of market institutions of Ukraine's economy to shape medium-term growth cycles and determine the long-term development trajectory. To prove the hypothesis, the author uses the theoretical heritage of such internationally recognized scientists as M.Tuhan-Baranovsky, R.Coase, D.North, and R.Solow.

Main results. It is worth starting a study of the dynamics of Ukraine's economy by returning to the question why Ukraine's economic growth did not begin during the high export prices of 1994–1997, but only in 2000. And the only way to find the answer is identifying the root cause of that growth.

The factors of economic growth in Ukraine in 2000

The literature usually associates the recovery of Ukraine's economy from the transformational recession with the devaluation of the hryvnia, with the increased price competitiveness of domestic products, with the expansion of its exportation and with the multiplying effect of the exporting industries in enhancing the overall output [9, p. 146]. The well-known Ukrainian economist S.Korablin argues that the basis for the seven-year sustainable economic growth, which began in Ukraine in 2000, did not consist in the implemented reforms, nor in a special business climate nor in the goodwill of Ukrainian politicians, but in the independent of them rise in world prices for raw materials (steel, wheat, nitrogen fertilizers, vegetable oil), which this country's companies exported to the world market [1].

In their essence, the above explanations are based on the assumption that the main factor of Ukraine's recovery from the transitional recession was the *rise of gross domestic demand fueled by exports incomes*. But is this argument indisputable? Let us check its key statements with facts.

First argument. The main factor in the recovery from the crisis was the increase in aggregate demand on the domestic market. However, in contrast to this argument, one can bring opposite examples that before the year 2000, the recurrent increases in aggregate demand on the domestic market never led to economic growth

in Ukraine. In particular, in 1993–1998, the volume of goods and services imported to the domestic market was by 3.0% higher than exports as annual average. This means that, at the expense of borrowed foreign funds, the expenditures of the participants of the domestic market constantly exceeded their incomes, which however did not induce any economic growth.

*Second argument***.** The main source of the growth of aggregate demand in the economy were the export revenues. Indeed, beginning with 2000, such a conclusion is encouraged by the growing exports of goods and services and a sizable trade surplus during that period. However, there are counter arguments. In 1996–1997, incomes from exports of goods and services were higher than in 2000, but they did not become a factor in the growth of aggregate demand. This means that the latter is mainly determined by the incomes of the producers on the domestic market.

The above facts call into question the assumption that the increase in export revenues was the main factor of Ukraine's recovery from the transitional recession in 2000. In our view, the recovery took place due to the increase in the aggregate supply of domestic products on Ukraine's market due to the reforms of 1997–1999, which were mainly focused on resuming Ukraine's economic growth. The most important of them can be briefly described as follows:

The first reform consisted in the introduction of a new fiscal discipline aimed at reducing inflation to a moderate level on Ukraine's domestic market and resulted in that the national currency started to perform the function of the accumulation of value. Ukraine's government managed to complete this task by denominating the national currency, introducing the hryvnia as a new currency (in September 1996) and reviewing various public spending items towards reducing the budget deficit.

The second reform consisted in turning the hryvnia in a partly convertible currency. In Ukraine, the hryvnia, which replaced in cash circulation the former coupon-karbovanets', at the time of its introduction was not officially recognized as partially convertible currency. However, in 1997 the National Bank of Ukraine completed an appropriate organizational and legal mechanism for its conversion.

The third reform consisted in the creation of an effective institutional mechanism for enforcement of payment between the agents on the domestic market engaged in trade operations. The basis of this mechanism were regulations aimed at reducing the companies' accounts receivable, strengthening contractual discipline, reducing the amount of barter transactions, fighting tax evasion and so on. The key role was played by the Law of Ukraine "On Restoring Debtor's Solvency or Declaring it Bankrupt" of 30 June 1999, No784-XIV, which came into force on January 1, 2000.

The fourth reform was aimed at increasing the price competitiveness of domestic products. This reform took place within two guidelines.

The first guideline involved removing the liberal regime of imports to the domestic market, which had emerged in 1992–1993.

The second guideline consisted in the 2.7 fold devaluation of the national currency. This measure is not usually included in the list of reforms, because it was implemented in 1998–1999 under the influence of the world crisis. However, its impact on the subsequent dynamics of commodity output was so great that it should be listed among the reforms that the government had to implement during the financial crisis.

The fifth reform consisted in improving the organizational and legal mechanism for new products' entry to the market. By the early 2000s, in Ukraine, the former Soviet system of technical regulation remained absolutely unchanged. It was not until the adoption of the Law of Ukraine "On Standardization" No2408-111 of May 17, 2001, that it was partially reformed. This Law initiated the transition to the voluntary application of standards and other principles observed in the field of technical regulations in the developed countries, and the elimination of the basic rule of the Soviet system of technical regulation, under which each new product type had to be preceded by a corresponding new state standard.

The reformed institutional environment began to modify the behavior of the agents on Ukraine's domestic market. This led, on the one hand, to *reducing the level of transaction costs* of the buyers and sellers, and, on the other, to the emergence of *favorable conditions for the production of innovative and better quality products.* As a result, in 2000–2004, the *cumulative growth of domestic commodity production* began. Let us try to confirm it with the facts.

It is well known that cumulative growth in output begins in one or more areas whose products the households (providing their incomes will rise) intend to buy in growing volumes. Given this, the question arises: which sector caused the cumulative economic growth in Ukraine in early 2000s? Let us try to find the answer using the data of Table 1, which describes the level of industry output in Ukraine in 1996–2000.

Data of Table 1 show that in 1996–2000 individual industries periodically increased their output, which however did not cause any growth of commodity production. Only after 1999, when two major industries (*ferrous metallurgy and food processing*) increased their output, in 2000, a cumulative growth began.

The process of cumulative growth in 2000 had the following prerequisites: In 1998–1999, because of the 2.7 fold devaluation of the hryvnia against major world currencies, domestic exporters obtained a large depreciation reserve[2], which became a source of their additional incomes in the future. In 1999, the largest share of such incomes was received by the steel producers, whose branch accounted for nearly a third of Ukrainian exports. Of course, part of these revenues was used to expand the output, and the other part, in the form of wages and profits caused an increase in consumption and investment.

The mechanism of the impact of consumer demand on the growth of commodity production can be described as follows. In 1999, Ukrainian households paid al-

[2] Depreciation reserve is the difference in price levels between products of domestic and foreign manufacturers, which occurs in the domestic and international markets due to the devaluation of the currency.

most two thirds (64.2%) of their consumer spending for the purchase of food and beverages [10], which was an incentive to increase their output. In addition, the volume of food products increased due to *import substitution*, which was quite intensive after the devaluation of the hryvnia. The result of the above mentioned processes can be illustrated by the fact that more than 92% of Ukraine's food retail market was accounted for by domestic produce.

Table 1

Output indexes in major industries and change of their shares in total industrial output in Ukraine in 1996–2000 pp.*

Industry	1996	1997	1998	1999	2000
Ferrous metallurgy	112	108	93	**106**	121
	21.6	*22.7*	*22.9*	***23.8***	*27.4*
Food processing	93	90	99	**107**	123
	16.3	*16.9*	*14.9*	***15.1***	*16.8*
Power industry	93	97	100	107	97
	12.6	*12.6*	*16.5*	*16.2*	*12.1*
Machine building and metal working	74	100	97	98	117
	15.0	*15.8*	*15.1*	*14.1*	*13.4*
Fuel industry	93	106	100	99	96
	12.1	*11.1*	*11.6*	*11.2*	*10.1*
Chemicals and petrochemicals	95	99	102	100	108
	7.3	*5.9*	*5.7*	*5.4*	*5.9*
Building materials	66	90	105	98	99
	3.3	*3.3*	*3.3*	*3.1*	*2.7*
Forestry, wood working and paper	81	99	108	121	137
	2.2	*2.0*	*1.7*	*2.2*	*2.4*
Light industry	75	101	105	108	141
	2,1	*1,8*	*1,5*	*1,6*	*1,6*

* numerator: output index as % to *previous year*;

denominator: – sector's share in total industry, as *% to total industrial output.*

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

Expanded supply of domestic food products on the domestic market resulted in the growth of revenues in the food industry. A certain portion of them started to be spent on the purchase of non-food products. As a result, in 2000–2001, average annual growth of the physical volume of consumed products was 21.5%. The highest increase rates were reported in the output of fat cheeses, oils, butter, margarine, whole milk products, confectionery, beverages, canned food, mineral water, refrigerators, electric vacuum cleaners, bicycles, linen, cotton fabrics, silk and knitwear, suits, jackets, trousers, jackets, shirts, and shoes.

The action of the investment demand on output growth can be described by Table 2.

Table 2

Output indexes of individual machine building subsectors in Ukraine in 1998–2005*

Subsector	1998	1999	2000	2001	2002	2003	2004	2005
Metallurgy machine building	72	118	121	146	93	119	114	130
Equipment for food processing and forage production	77	118	126	102	94	117	136	103

***** Output index in subsector, *% to previous year*.

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

Data of Table 2 show that in 1999 in Ukraine the increase in output in the steel industry and the food processing caused a growth of investment goods (machinery, manufacturing equipment, etc.). Thus, in 1999, output in the sector of metallurgical engineering and manufacturing of the equipment for the food processing and feed industry increased by 118% over previous year. With the exception of 2002, this trend continued in the consequent years.

Continuous expansion of the output of consumer and investment goods increased employment in the industries that produce them, which automatically generated new additional demand first for the consumer goods, and then for the investment ones. These interrelated processes developed into an *overall cumulative growth of domestic commodity output*. The fact of its emergence, development and weakening can be described and presented graphically using macroeconomic indicators. The indicators for this purpose should include those that allow evaluating such parameters of the domestic market as the volume of retail trade turnover (characterizes consumer demand); gross savings (reflect that portion of the disposable income of market participants, which was not spent on consumption, hence could be spent on the purchase of capital goods); the volume of capital investments (characterizes the value of investment demand); and retail turnover of domestic and imported consumer goods (as an estimate of their supply). Time series of those indicators for 2000–2013 are shown in Fig. 1.

Fig. 1 in the form of curves presents time series of the indicators, which confirm the fact of the above mentioned developments. In 2000–2004, the growth in consumer spending, savings, investments, and expansion of the sales of consumer goods of domestic origin were evidence of cumulative growth of Ukraine's commodity output. The corresponding chain process can be described in the following way: the increase in the households' income caused an expansion of both consumer spending and gross savings; the latter served as a source of investment, aimed at expanding domestic production of those consumer

goods, which in terms of price and quality were more competitive than their imported counterparts. In 2000–2004 the share of domestic consumer goods on the domestic market increased from 33.5 to 38.1%, and the share of imported ones – from 10.2 to 12.5%. This implies that the *growth rate of supply of the domestic products* on the domestic market was 2 times higher than that of imported ones. This fact can be used as the main argument for the correctness of the assumption that in 2000 in Ukraine economic growth began due to increased *supply of domestic products*.

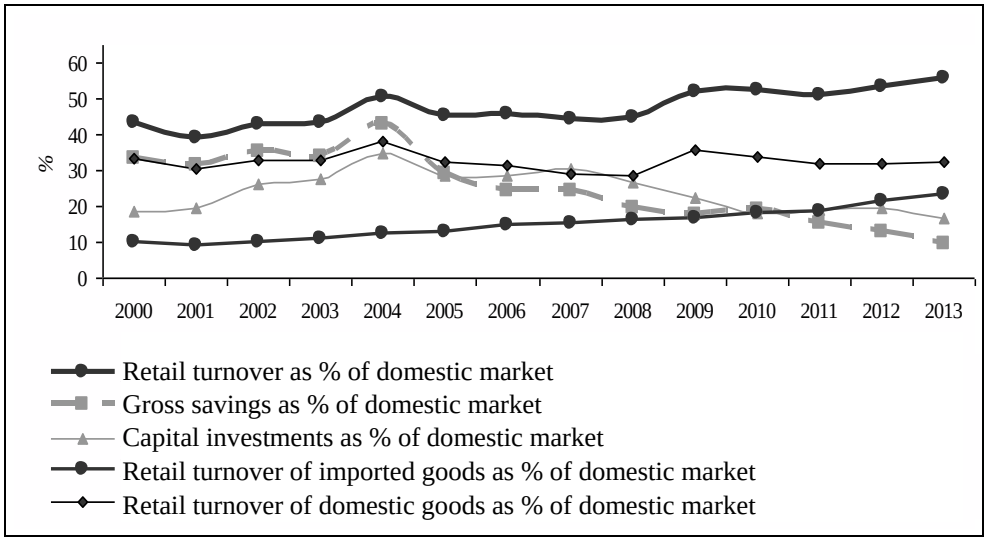

Fig. 1. Graphical model of cumulative growth of commercial output in Ukraine in 2000–2013

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

At the same time, the data in Fig.1 also show that after 2004 in Ukraine the process of cumulative growth of commodity production began to gradually slow down. Thus, in 2005–2013, consumer spending continued to grow rapidly. However, this trend was accompanied by a more than fourfold decrease in gross savings compared to the volume of the domestic market. This indicated a significant reduction in investment opportunities of domestic enterprises. Thus, in 2013 the share of capital investment in the structure of the domestic market decreased by 18.3% compared to 2004. During this period, the companies began to use increasing volumes of material and financial resources not to expand production but to increase imports. In 2013 the share of imports on the domestic market increased by 10.8% compared to 2004. At the same time, the share of sales of domestic products in the internal market decreased by 5.7%, which means that, in 2005–2013, the growing consumer demand became an increasingly weaker incentive for the producers to increase output.

The fact that after the institutional reforms of 1997–1999, in Ukraine began the process of cumulative growth of commodity production, which almost completely stopped in the pre-crisis 2013, can be used as an argument in favor of the fact that,

in this period, in the Ukrainian economy took place an institutional by nature economic cycle (hereinafter – ***the institutional economic cycle*** [11]). In addition, you can also assume that during the period of the reduction of cumulative commodity output, the national economy began to *lose the internal resource of resistance* to accidental changes in the conditions on foreign trade markets. With the chaotic effect of positive shocks it could grow rapidly, and with that of negative ones it could suddenly fall into a deep recession.

Setting forward an assumption that in Ukraine an institutional economic cycle took place, one should refer to the theory of the subject. The fact is that most modern economists are under a strong influence of R.Coase fundamental discovery that the primary purpose of economic institutions is reducing transaction costs to market participants [12, p. 19]. According to that concept, large transaction costs, which emerge in imperfect institutional environment can cause a stoppage of trade turnover on the market and reduce its volume. At the same time, sophisticated institutions, reducing transaction costs, are able to protect the market from the risks of its compression. Thus the theoretical findings of R.Coase do not directly deny the institutions as a factor of growth of a national economy, but do not give grounds to investigate this aspect of the institutions' functions.

Market institutions as a factor of growth of a national economy

At the same time, the attitude of the scientists who argue that economic institutions exclusively regulate the level of transaction costs to market participants is not very good. Based on it, for example, one cannot convincingly explain why after 1990 Poland's GDP has increased three times, and in Ukraine it has not yet reached the level of 1990. But today, after nearly three years of efforts to reform Ukraine's economy, it becomes increasingly clear to all of us that the success of Poland is not so much associated with the US and EU financial support and the write-off of the external debt, as with the success of the 1990s in reforming the institutional structure of the internal market by bringing it closer to the standards of developed countries. However, this understanding will inevitably lead to a new theoretical question: how do market institutions affect the growth of a national economy?

In our opinion, to reveal the *mechanism of the influence of market institutions on the dynamics of commodity output,* we should revise certain provisions of the modern theory of endogenous and exogenous growth. In particular, they are mostly based on the assumption that the dominant factor in the increase in output is technological progress, which changes the qualitative properties of the factors of production and in so doing creates favorable conditions for the formation of their new combinations to expand output. Within this concept, the mobility of the factors of production is considered constant; hence its impact on the dynamics of economic growth is not taken into account.

In contrast to the above stated provisions, the present article *proposes to recognize as the dominant factor in economic growth the mobility of the factors of production in an economy*. The notion of the mobility of the factors of pro-

duction should be interpreted as the rate of formation and implementation in production of new combinations of the factors of labor, land, capital, and entrepreneurial skills in order to increase the output of better quality and innovative products. In this case, these factors should be considered as *material resources for economic growth*.

Numerous empirical data suggest that the mobility of the factors of production in the economy significantly increases if the rules of market institutions reduce, for the market participants, the level of uncertainty *at the stage of production of goods*, the level of opportunist and redistributive activities *at the stage of exchange and distribution*, and the level of harmful effects (externalities) *at the stage of consumption*. If market institutions properly perform these functions, the behavior of market agents is exclusively determined by the price level. Price incentives constantly motivate producers to create new combinations of the factors of production to expand output of new products and gain additional revenue. In the process, *the intangible resources of economic growth*, such as technological change, consumer tastes, new development strategies of the firms, advanced management methods, the effect of scale and others are only able to determine *certain limits* for the new combinations of the factors of production.

If market institutions fail to properly perform the above mentioned functions, market players lose the incentives to expand production. It is possible to demonstrate this with simple hypothetical examples. Imagine a situation where a producer has entered the market with a new product, and another one illegally copies the former's manufacturing pattern and satiates the distribution network with the new product's analogues. Such opportunistic behavior deprives all producers of any motivation to carry out structural changes in the production in order to develop new products. Now imagine a different situation. Assume that a producer has released to market a new type of product, which is more expensive, but of better quality. However, consumers are unable to buy it because the initial incomes in the production are excessively redistributed in favor of the business owners or the state. Because of the presence on the market of such redistributive behavior, potential producers of new products lose all reasons for their development.

If imperfect market institutions reduce the mobility of the factors of production in the economy, the use of intangible growth resources becomes senseless. Indeed, who needs to develop new materials, technologies, products or management methods, if, due to high institutional barriers, their implementation in the production lasts for decades or if the market lacks sufficient effective demand for the purchase of new products? Understanding this allows to explain why in today's information based world some countries make an active use of intangible resources for economic growth, while others don't do so and remain technologically backward and poor.

During the institutional economic cycle, the level of mobility of the factors of production initially increases as a result of the reforms focused on improving the institutions of the internal market and then decreases because of their degenera-

tion and loss of efficiency [13, pp. 111, 118, 122]. Assuming that, at the end of the cycle, the imperfect character of institutional pattern of the domestic market is quickly improved, and then the commodity production *gets a chance to avoid a systemic crisis and recession and safely enter a new cycle of growth*. In this case, the long-term growth trend of the national economy will be determined by several shorter economic cycles. The idea of combining shorter cycles with longer ones was expressed by one of the most influential economists of the early twentieth century Ukrainian scientist M.Tuhan-Baranowski [14, pp. 75–76].

Graphic representation of the institutional economic cycle and long-term growth trajectory of the national economy

If we consider an institutional business cycle as fluctuations of aggregate economic activities, then for its graphical modeling it is sufficient to choose one of the macroeconomic indicators, which enables the most accurate assessment of changes in output. A graphic model of a hypothetical institutional economic cycle is shown in Fig. 2.

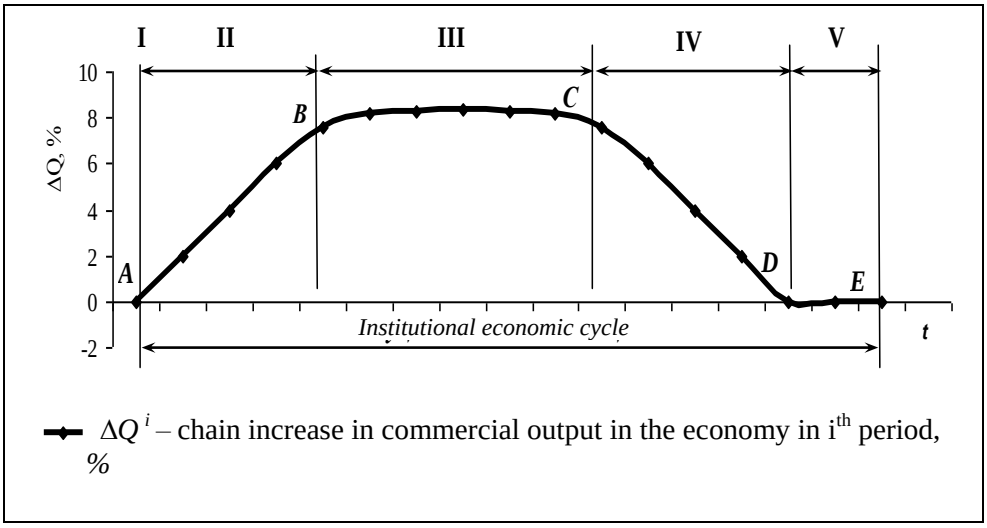

Fig. 2. Graphic model of institutional economic cycle, which shows the dynamics of the increase in gross output in a national economy

Source: compiled by the author.

In Fig. 2, curve ***AE*** is based on time series of the indicator, which reflects the chain process of the increase in commodity output in the national economy during an institutional economic cycle. The curve is divided into segments that characterize the regularity in the sequence of I–V phases of aggregate economic activities. These phases can be described in the following way:

I phase is *depression*. It is shown as point A and reflects the period of depression of the commodity output when institutional reforms are implemented in order to improve the institutional pattern of the domestic market. The formal sign of this phase is the trend of the change in indicator $\Delta Q^i = 0$;

Phase II is *accelerated growth*. It is represented as segment AB and reflects the accelerated growth of commodity output and development of aggregate economic activities in the national economy. During this phase, under the influence of the reforms, on the domestic market appears a rising wave of favorable conditions for the expansion of economic activities as to the production of innovative and better quality products. During this period, some new economic activities become a material basis for the emergence of others, i.e. in the economy begins a process of cumulative (self-enforcing) development of new economic activities. Formally, the sign of this phase is the trend of the change of indicator $\Delta Q^i \uparrow$;

Phase III is *stable growth*. It is shown as segment ***BC*** and reflects the stable economic growth and development of aggregate economic activities in the national economy. During this phase, in the economy emerge and grow insurmountable institutional barriers to the entry of new product to the domestic market. To increase their incomes, the producers of already present on the market innovative and better quality products begin to transform their manufacturing into mass production. This is attained by reducing their prices with a simultaneous reduction of production costs due to additional investments in the production process. As a result, the markets of formerly new products begin to turn into traditional ones. The number of the latter constantly grows, which is accompanied by an increase in industrial consumption of natural resources in the economy. As a result of the slowdown in economic activities associated with the production of innovative and better quality products, and a simultaneous speed up in the output of relatively traditional items, the economy retains a stable and high growth rates. The formal sign of the phase is the trend of the change of indicator of $\Delta Q^i = const$;

IV phase is *slow growth*. It is shown as segment ***CD*** and reflects the trend of slow growth in commodity production and slow development of aggregate economic activities in the national economy. During this phase, producers, because of high institutional barriers, do not introduce to the market new types of product. At the same time, during this period, the process of inventory saturation with traditional products ends, which leads to a slowdown in commodity output. The formally sign of this phase is the trend of the change in indicator $\Delta Q^i \downarrow$;

V phase is *recession*. It is shown as interval ***DE*** and reflects the tendency to stop the growth and development of aggregate economic activities in the national economy. During this phase, the economic activities associated with the production of both new and traditional products lose their ability to expand. And they will not take any positive dynamics until the new reforms, which will again create a favorable institutional environment on the domestic market for another start of cumulative growth. The formal sign of the phase is the trend of the change of indicator $\Delta Q^i = 0$.

If institutional economic cycle is represented using I^i_q, which is index of physical input of commodity production in % to a certain base period, then the graphical model of the cycle takes the form as in Fig. 3.

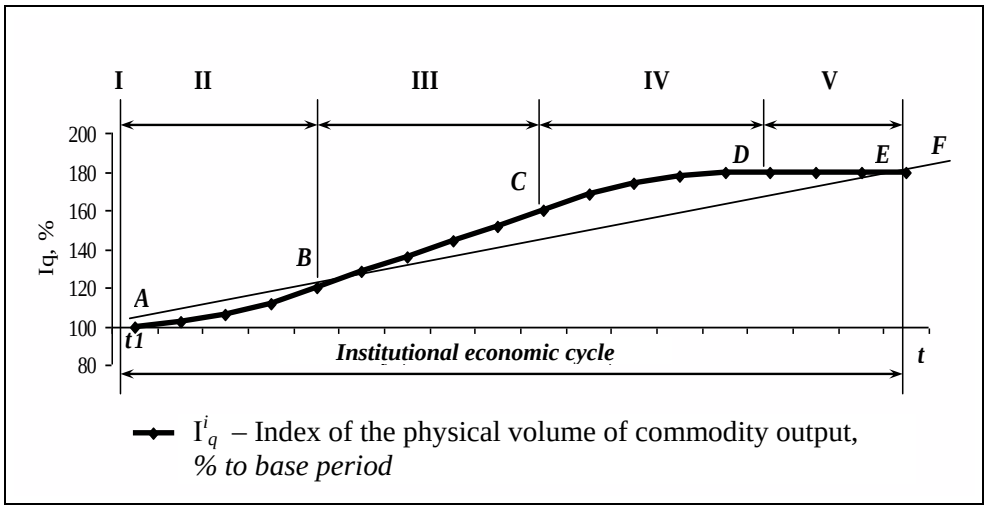

Fig. 3. Graphical model of institutional economic cycle, which represents the dynamic of a relative value of aggregate economic activities in the national economy

Source: constructed by the author.

In Fig. 3, the curve represents the dynamics of index I^i_q relative to the base period, which is marked with letter ***A***. This means that at time *t1,* institutional reforms were carried out in the domestic market, which gave rise to a cycle of economic growth. The output produced at this point, is recognized as base for comparison with the volume of goods and services produced in the future. Formally, this can be represented as follows: $I^{t1}_q = 100\%$. Curve ***AE***, which reflects the dynamics of the indices I^i_q, gives the graphical interpretation of the change in the volume of produced goods and services in the economy compared to the level observed at point ***A***. At the same time, point ***E*** on curve ***AE*** is a reflection of the fact that the recession phase of the institutional economic cycle is over. It is assumed that, after point ***E,*** the economy undergoes an instantaneous institutional reform, which will create, in the domestic market, favorable conditions for the emergence of a new cycle of output growth. Given this, it can be argued that *line **AF** is a long-term growth trend of the national economy*, which certainly undergoes certain changes under the action of the new institutional economic cycle.

Assessment of the mobility of the factors of production during an institutional business cycle

The only way to prove that an institutional economic cycle takes place in a national economy is using the evidence of change in the mobility of the factors of production. For its quantitative evaluation, indicator L^iq can be used. It reflects the value of welfare losses that society incurs due to the slowdown in the mobility of the factors of production compared to a certain base period. In practice the

L^iq allows describing the gap between the actual value of commodity output and the potential value that could be attained if the level of mobility of the factors of production in the economy does not decline. L^iq index can be calculated using the formula:

$$L^iq = (Q^i - Q^ipt) / Q^i \times 100\%,$$

where: L^iq is the society's losses of welfare due to the slowdown in the mobility of the factors of production in i^{th} period in % to actual commodity output;

Q^I is actual commodity output in the economy in i^{th} period;

and Q^ipt is potential commodity output in the economy in i^{th} period.

In a national economy, actual output of commodity production can be estimated using the formula: Q^i = *GDP – final collective consumption expenditures – cost of items produced by households to meet their own needs*. The point of using this indicator is that it allows a maximum cleansing of the output in the economy from *non-market* goods and services, which are taken into account in the calculation of GDP.

The potential volume of commodity production is the total market value of the finished product, which could be produced in the national economy if, due to constant reforms, mobility of the factors of production remained unchanged. We know that high mobility creates favorable conditions for the expansion of the production of new items. Therefore, to evaluate changes in the level of mobility of the factors of production, we should use the following equation:

$$\Delta Q^i = \Delta Q^ir + \Delta Q^ip ,$$

where: ΔQ^I is increase in commodity output in the economy in i^{th} period;

ΔQ^ir is increase in traditional output in the economy in i^{th} period;

and ΔQ^ip is increase in the output of new items in the economy in i^{th} period.

If $\Delta Q^ip > 0$, this means that the economy is in the process of changing the production pattern in favor of innovative and higher quality goods and services; If $\Delta Q^ip = 0$, this process has been stopped; if $\Delta Q^ip < 0$, the process is reversed, i.e. the production pattern is changing in favor of goods and services with lower prices and worse qualities. The latter can be seen during economic crises, accompanied by a significant drop in income and purchasing power of the households.

If the trend of $\Delta Q^ip \uparrow$ is observed, we can state the fact that the mobility of the factors of production is steadily growing. In this period, the actual output of commodity production in the economy coincides with the potentially possible one. In case of the trends of $\Delta Q^ip \downarrow$, one could argue that the mobility of the factors of production is constantly decreasing. In this period, the actual output of commodity production falls short of the potential.

Typically, in a national economy, the sectoral market of traditional products is always quite satiated. On that market, the producers never expect increases hence

they have no incentive to invest. To the current fluctuations in demand, they react by increasing or decreasing the output of goods and services. This means that, for example, a 1% of the volume of the growth of a sectoral market of traditional products may occur on the condition of a 1% increase in the industrial consumption of material resources. The totality of such resources can be compared to a "generalized" resource of *natural raw materials*, which during processing is converted into final goods and services. Under this condition, the value of index $\Delta Q^i r = \Delta R^i n$, where $\Delta R^i n$ is the increase in the output of commercial natural raw materials in the economy in i^{th} period.

Innovative and higher quality products have better consumer properties over traditional ones and therefore higher market value.

Expansion of the output of such products actually means a deepening of the industrial processing of natural resources. It provides the producers a higher income per unit cost of natural resources and, at the level of national economy, contributes to effectiveness. As evidence of the transformation of an economy into a more efficient system can serve the fact that, for *unchanged level* of the industrial consumption of natural resources in the economy, the output increases, for example, by 1% or more[3] [15]. Under this condition, the value of index $\Delta Q^i p = \Delta R^i in$, where: $\Delta R^i in$ is increase in the use of intangible resources in the economy in i^{th} period. This implies that the value of index $\Delta R^i in = \Delta Q^i - \Delta R^i n$. Based on this, the potential value of commercial output in the economy can be calculated using the formula:

$$Q^i pt = (Q^i / (1 + \Delta R^i in)) \times (1 + \Delta R^0 in),$$

where $\Delta R^0 in$ is the increase in use of intangible resources in the economy during the base period. As the base period for the calculation should be chosen the period when index $\Delta R^i in$ reached the maximum value under the action of institutional reforms in the domestic market.

$L^i q$ index can be used to construct the diagram of the lag of actual volume of commercial output relative to potential. When building this diagram, it is necessary to consider that $L^i q$ takes a negative value when the actual commercial output is less than potential, and, conversely, it is positive when the actual commercial output is higher compared to potential. The latter is possible with the impact on the market on the part of random positive economic shocks.

Cyclical and chaotic fluctuations of Ukrainian economy during 1997–2015

The time series of the index of commercial output can be used for graphical simulation of the institutional economic cycle in Ukraine. Its interpretation is shown in Fig. 4.

In Fig. 4, curve ***D*E*** indicates the time series of index ΔQ^i calculated for Ukraine's economy for 1990–2015. The above curve actually reflects the fluctua-

[3] Basic idea of the presented calculation belongs to the well-known American economist R.Solow.

tions in aggregate economic activities relative to previous year. The hatched area indicates the periods of economic crises. Curve ***D*E*** can be used for identification, graphic interpretation and description of the phases of the modern institutional cycle in Ukraine. The results of its modeling can be briefly represented in the following way.

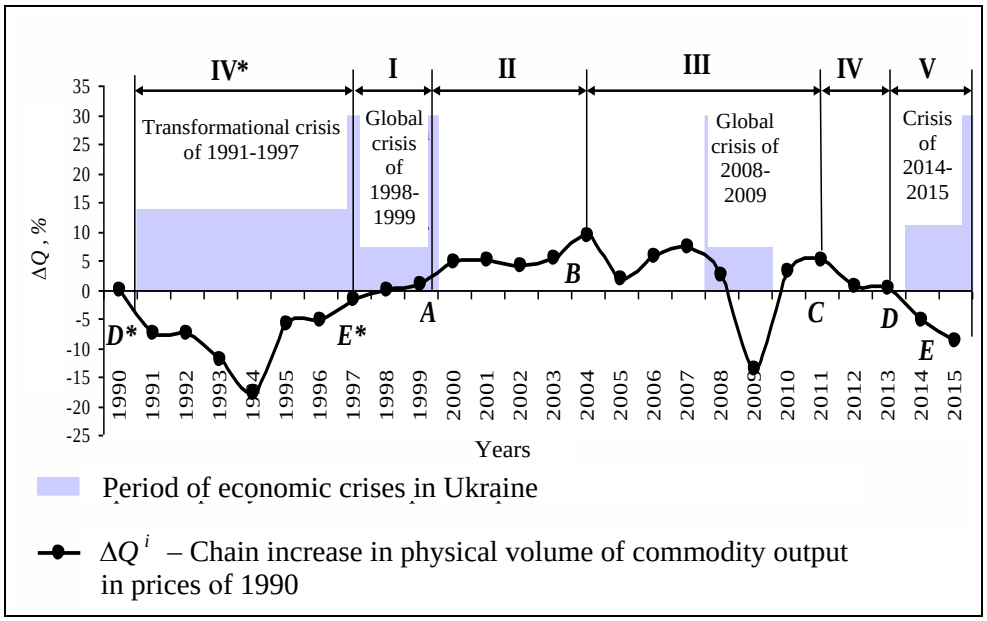

Fig. 4. Graphical model of the institutional economic cycle, which demonstrates the dynamics of the increase in aggregate economic activities in Ukraine in 1990–2015

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

Phase V* reflects the period of 1991–1996, when were implemented the transformational reforms aimed at the formation of Ukraine's domestic market. The process was initiated by the government's policy measures designed to address three key challenges. These included the following: *the introduction of free pricing mechanism, transferring domestic enterprises to their own balance for further transformation into independent entities with different forms of ownership and providing them the right to carry out import-export activities*[4].

[4] Transformational reforms in the Ukrainian economy actually began with the adoption in December 1990 of the Law of Ukraine "On Prices and Pricing", which put into practical management free prices and tariffs. In February 1991 was adopted Law of Ukraine "On Property", which consolidated the legal foundations of the existence of various forms of ownership in the economy that included: property of the Ukrainian people, private, collective and state ownership. In addition, the Act prohibited the state to intervene directly in the business activities of the agents of property rights. In April 1991 was adopted Law of Ukraine "On Foreign Economic Activities", which gave the businesses and individuals the right to carry out export-import operations. In 1991–1993, for the transfer of companies to self-balance, Ukrainian government began to narrow the practice of state orders and state subsidies. The scale of this policy can be testified by the following statistics: while, in 1991, 45.8% of the expenditures of Ukraine's was directed to the development of industry, in 1993 the corresponding indicator equaled to a mere 19.3%.

However, those reforms were insufficient to stabilize commercial production in Ukraine and stop the economic downturn that was caused by the sharp reduction in exports to foreign markets, including the CIS countries. As a result, in 1991–1993, the Statistical Service annually recorded the reduction of the national GDP by an average of 10%.

The limited character of Ukrainian transformational reforms was highlighted in 1994. That year, the volume of Ukrainian exports grew for the first time, which however failed to stop the decline of commercial output. In fact, the economic crisis was only aggravated by the imperfect character of the market reforms as to the regulation of the amount of *transaction costs* of the agents of domestic market. These costs increased primarily under the influence of the current monetary policy, which allowed unacceptable rise of the budget deficit with its consequent coverage by money issue. With this policy, the authorities covered the demand for cash, provided budgetary donations and loans to consumers and producers, including the explicit bankrupts [16, p. 165]. The uncontrolled money issue caused hyperinflation. For example, in 1991, in Ukraine, consumer prices increased 3.9 times, in 1992 – 21.0 times, and in 1993 – 102.6 times [17]. During these three years, the resulting increase was 8403 times.

Furthermore, the situation was also complicated by the fact that inflation reduced the value of the companies' working capital, which aggravated the general problem of delayed payment for purchased goods and services thus expanding the "avalanche of defaults". Under these conditions the domestic commodity markets experienced difficulties with both overproduction and shortages. All these factors inevitably turned into additional sources of transaction costs, which forced the producers to reduce output. Given this, the period of 1991–1996 can be roughly considered as the phase of "recession" of *the nominal previous economic cycle*, which developed in Ukraine when it was part of the former USSR and ended in a systemic crisis. The formal sign of this phase is the increasing fluctuations of the commercial output within $\Delta Q^i \leq 0$.

Phase I represents the period of 1997–1999, when on the domestic market were carried out institutional reforms that reduced the level of producers' transaction costs and opened their way to initiate new economic activities involving the production of innovative and better quality items. The upward slope of segment ***E*A*** of curve ***D*E*** is evidence of the slowing and end of the decline of aggregate economic activities in the national economy and its stabilization. In view of this trend, the period of 1997–1999 can be considered as the phase of "depression" within the modern institutional economic cycle in Ukraine. The formal sign of this phase was the increase in the value of commercial output within $\Delta Q^i \leq 0$.

Phase II reflects the period of 2000–2004, during which commercial output in Ukraine grew rapidly. The upward slope of segment ***AB*** in curve ***D*E*** is evidence of rapid expansion of aggregate economic activities. So the period 2000–2004 can be considered as a phase of "accelerated growth" in the modern institutional economic cycle. The formal basis of that phase was cumulative growth of output: $\Delta Q\ i \uparrow$.

Phase III reflects the period of 2005–2011, during which, in Ukraine, the growth of commercial output stabilized. The exceptions were the years 2005 and 2009 when the output literally "fell". In the first case, it occurred under the influence of *adverse conditions in the domestic market*, which was caused by the preparation of the national economy to join the WTO. In particular, Ukraine adopted laws that led to a significant reduction of protectionist tariffs and opening the domestic market for the importers. In the second case, it happened under the influence of the global financial crisis of 2008–2009. Given these developments, it can be argued that the relatively slight slope of segment ***BC*** in curve ***D*E*** is evidence of a stabilization of aggregate economic activities in the domestic economy. Therefore, the period of 2005–2011 can be recognized as a phase of "sustainable growth" of the modern institutional economic cycle. The formal feature of this phase were the fluctuations of the increase in commercial output within: $\Delta Q_i > 0$.

However, during the third phase of the cycle, in Ukraine's economy, developed a series of latent events that eventually stopped the cumulative growth of domestic commercial output. Those events have not been specifically studied by the economic science. Trying to identify them, Ukrainian scientists have expressed different versions for the slowdown of economic growth in this country. Briefly their content can be summarized in the following terms: "the resource curse and import dependence" "Dutch disease of the Ukrainian economy", "fall in world prices for raw materials", "the raw-materials-export structure of the economy", "misuse of foreign loans and rising public debts" and so on.

Certainly, all the mentioned negative features were somehow inherent in the domestic economy. However, they related to foreign trade conditions. So it is impossible to explain on their basis why the cumulative growth of Ukraine's output stopped. In our view, the reason for the crisis lay in the fact that the institutional reforms of 1997–1999 appeared to be not deep enough *to restrict the redistributive activities that began to grow with the increase of revenues* of the agents of the domestic market.

In 2005–2011, the process of income redistribution between the agents of Ukraine's domestic market took different forms. For example, business distributed the primary incomes in their favor by hiding income in offshore companies and by means of tax evasion, lowering wages, unofficial payments of wages to the employees ("in the envelope") and so on. Some business groups who were close to the power started large scale redistributions of secondary incomes of the agents of the domestic market through raiding actions, which were "legalized" in the courts, corruptive schemes of obtaining aid from the state budget, corrupted tenders for public procurement, as well as through corrupted contracts with the government and privatization of state enterprises and so on.

In the most general terms, the revival of redistributive activities can be described, based on the dynamics of incomes of the richest citizens of Ukraine. For example, according to Forbes expert, while in 2005 in Ukraine were only 3 people, whose wealth exceeded 1 billion USD [18], in 2011, their number increased

to 21 persons. According to the estimates, total fortune of the hundred richest Ukrainian businessmen has reached 54 bln USD [19]. It is noteworthy that in 2005–2011 the number of billionaires in Ukraine increased 7 times. According to the World Bank, during this period Ukraine's per capita GDP at purchasing power (hereinafter – GDP at PPP) grew by only 127.7%. The Ukrainians remained one of the poorest nations in Europe. In 2011, Ukraine's per capita GDP at PPP amounted to 8.29 ths USD, which was 4–6 times lower than in developed countries, almost three times lower than in Slovenia and Czech Republic, 2.5 times lower than in Poland, Latvia and Hungary, and half of the level of Turkey and Romania [20].

With growing social inequality, economic growth in a country cannot continue even in the medium term, and, in 2005–2011, Ukrainian economy confirmed this rule. In particular, during this period the households' purchasing power grew too slowly to encourage massive production of somewhat more expensive and better quality innovative items. At the same time, because of the high level of corruptive redistributive activities committed by some government backed business groups, potential foreign and domestic investors were reluctant to implement large-scale investment projects. Such developments led to the situation when, in 2005–2011, in Ukraine, cumulative growth of domestic commercial output began to decelerate and came close to a complete stop.

Phase VI displays the period of 2012–2013, when Ukraine's increase in commercial output began a rapid decline. The descending slope of segment ***CD*** on the curve ***D*E*** in Fig. 4 is evidence of the end of the expansion of aggregate economic activities. Therefore, the period of 2012–2013 can be considered as the *"slow growth"* phase in the modern institutional economic cycle in Ukraine, whose formal sign was the tendency to reduce to zero the increase in commercial output: $\Delta Q^{i} \downarrow$.

Phase V displays the period of 2014–2015, when commercial output production in Ukraine entered a recession, and then suffered a rapid decline. The form of the slope of segment ***DE*** on curve ***D*E*** in Fig.4 is evidence of a sharp contraction of aggregate economic activities in the national economy. Therefore, this period can be considered as a phase of "recession" within the modern institutional economic cycle, during which the economic crisis began. The formal sign of this phase were the fluctuations in the dynamics of commercial output within: $\Delta Q^{i} \leq 0$.

The loss of society's welfare due to slowing mobility of the factors of production in Ukraine in 2000–2013

Indicator ΔQ^{i} makes it possible to build a graphical model of the real institutional economic cycle, that took place in Ukraine in 1997–2015. However, in order to prove that the above mentioned model does not reflect a coincidence of favorable or adverse events, but exactly the decline in the efficiency of the institutions of domestic market, it is necessary to quantify how those institutions affected the level of mobility of the factors of production in the economy. This can

be done in a single way, i.e. to build, with the use of index L^iq, a graph of the lag of the actual commercial output in Ukraine relative to potential in 2000–2013. The results of such efforts are shown in Fig. 5.

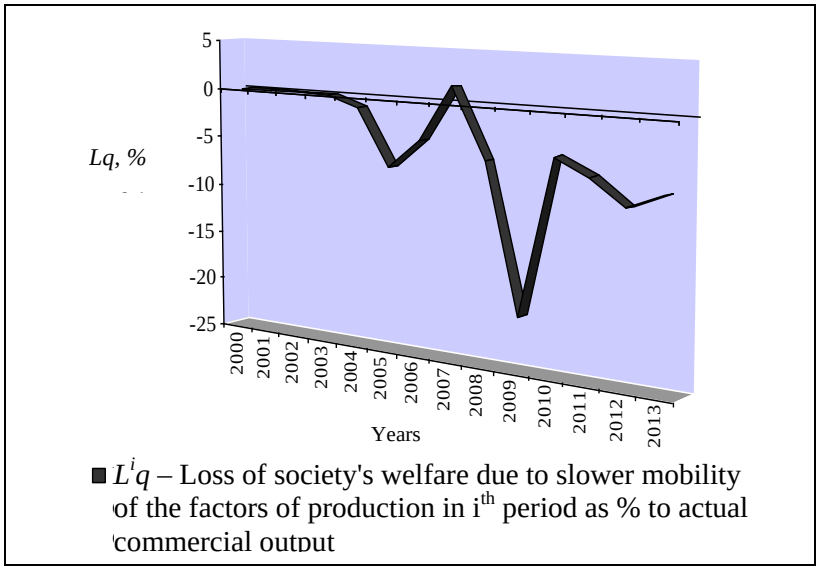

Fig. 5. Graph of the lag of actual commercial output relative to the potential in Ukraine in 2000–2013

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

Fig. 5 presents, in the form of a curve, the time series of L^iq index, which reflects the loss of society's welfare due to slowing mobility of the factors of production in Ukraine's economy during 2000–2013. Researching the curve allows to conclude that the lag of actual commercial output relative to potential emerged during Phase III of the modern institutional economic cycle, which took place in 2005–2011. Taking no account of the crisis year of 2009, it can also be argued that the lag considerably increased during Phase IV of the cycle, which falls on the years 2012–2013.

The above regularity can be described in more detail in the following way. In 2005–2013, in Ukraine, the loss of society's welfare due to slowing mobility of the factors of production amounted to an average of 6.5% per year relative to the actual yearly commercial output. Of course, much of these losses occurred under the influence of the global financial and economic crisis of 2008–2009. However, even if the crisis year of 2009 is excluded from this calculation, the average yearly loss of the society's welfare was about 4.9% compared with actual commercial output. This means that, during 2005–2013, Ukrainian society paid an annual "tribute" of almost 5% of their income for the inaction of the government to reform the inefficient institutions of the domestic market. In short, for the population of Ukraine, the price for the postponement of the reforms was very high.

The long-term trajectory of economic growth in Ukraine

The above presented evidence of the development of the institutional economic cycle in Ukraine in 1997–2015, pave the way for modeling a long-term trajectory of the national economy. Based on the fact that the institutional economic cycle began in 1997, and in late 2013 it actually entered the phase of recession, the straight line that connects the outputs in 1997 and 2013 can be considered as the trajectory of long-term economic growth in Ukraine, whose graphic representation is shown in Fig. 6.

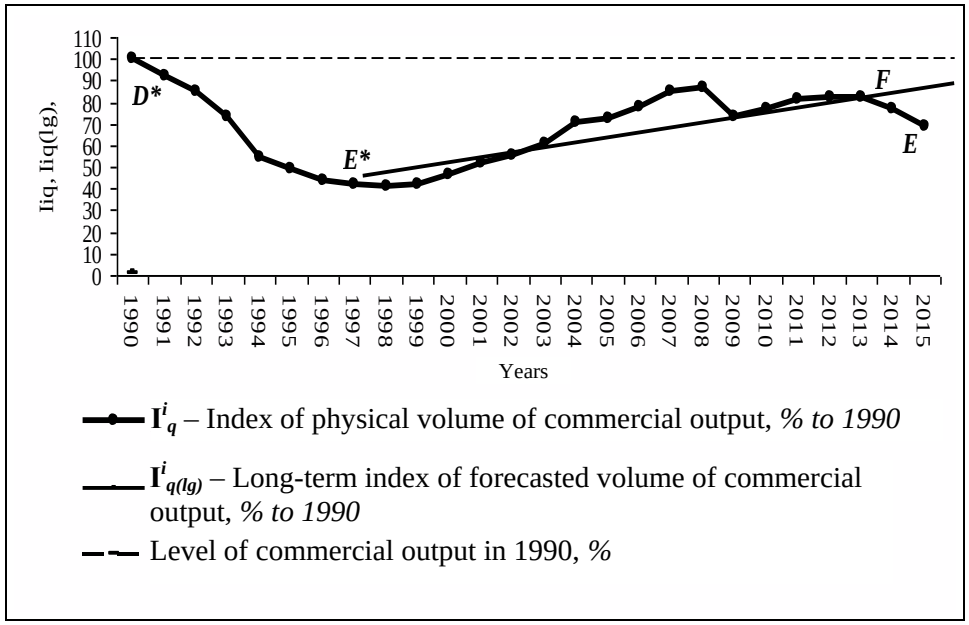

Fig. 6. Formation of the trajectory of long term economic growth in Ukraine in 1997–2015

Source: compiled based on data of Ukraine's State Statistical Service for corresponding years.

Fig. 6, in the form of the curve ***D*E*** presents the time series of index I^i_q, that reflects the fluctuations in actual commercial output in Ukraine relative to 1990 (in 1990 I_q = 100%). The level of 1990 is indicated by the dashed line. At the same time, in the form of a rising straight line ***E*F,*** the Figure presents the time series of index $I^i_{q(lg)}$, which allows predicting the dynamics of commercial output during 1997–2015 provided it is not influenced by negative and positive shocks from external conditions. Based on the regularities of the change in the dynamics of those indices, one could argue the following: The time series of index $I^i_{q(lg)}$ is advisable to use for graphic representation of the trend of long-term economic growth in Ukraine. With its help, you can describe all stochastic and cyclical fluctuations of commercial output. Their study has found that, in 1998–1999, under the influence of the world financial crisis, the level of commercial output was lower compared to the long-term trajectory of its growth. In 2000–2003, Ukraine's economy, as a result of the accelerated cyclical growth, entered a long-term de-

velopment trend. In 2005–2008, the level of domestic commercial output began to significantly exceed the long-term development trend. This new trend was due to the favorable economic situation on the world commodity markets, such as steel, grain, mineral products (ore), chemical products, as well as on the foreign credit markets. The effect of that positive conjuncture shock was broken by the global financial and economic crisis of 2008–2009, which again moved the level of Ukraine's commercial output closer to the long-term trend. In late 2013, Ukraine's economy, as a result of the cyclical slow growth, for a short time, entered the trajectory of long-term development.

With the favorable conjuncture and successful policy of reforms, in 2014–2015, Ukraine's commercial output could have remained at the level of 2013, and, after the completion of reforms, it should have acquired a positive dynamics. Unfortunately, events began to develop by a different scenario, whose causes the scientists are only beginning to explore. [21] In this scenario, in 2014–2015, a systemic economic crisis broke out in Ukraine. By its nature, it was a random event, which was aggravated first by a trade war and Russia's aggression against Ukraine and then by the not always prudent domestic policy of the government. Given that the crisis substantially redirected the development of Ukraine's commercial output from the long-term trend, today we can argue the following. *The years of output recovery to the level of 2013 can be considered in Ukraine as a period of the return of the national economy to its long-term growth trajectory.* And the next positive deviation from it would be a sign of the beginning of a new institutional economic cycle.

Conclusions

The research results show that, during 1997–2015, Ukraine's economy has been influenced by both positive and negative random shocks from external conditions and institutional factors that were activated by the reforms of 1997–1999 and exerted a dominant influence on the shaping of the trajectory of its long-term growth. However, beginning with 2005, the potential of reforms to stimulate economic growth in Ukraine began to gradually exhaust. But this did not attract the attention of local politicians to the problem of urgent economic reforms. No reforms were implemented either during the global financial and economic crisis of 2008–2009, which led to a -15.1%, decline in the national GDP of Ukraine or during the three years of difficult and protracted post-crisis recovery. And it was only a new, almost 17 per cent reduction in GDP in 2014–2015, that, together with public pressure, the war with Russia and international obligations under the EU – Ukraine Association Agreement has made the government to launch profound reforms, which are being implemented too slowly and painfully to society.

Today, everybody is concerned with the question how long the return of the domestic economy to long-term development trend will take. Responding to that question, it should be noted that this period will not be short. This is because, due to the influence of the systemic crisis of 2014–2015, the value of total demand on

Ukraine's domestic market has dropped to the level of 2005, which means that consumer and investment resources of its agents are too small to stimulate intensive recovery of domestic commercial output.

The only way to speed up the process of restoring the national economy is through rapid and successful institutional reforms that would stop redistributive activities on the domestic market, reduce the level of income differentiation, increase consumer and investment resources of the domestic economy and allow foreign investors to strengthen them. A future cumulative growth of Ukraine's economy within the new institutional economic cycle will probably start simultaneously in three areas. One of them will be food processing, and two others will be export-oriented sectors which will earn the highest incomes from the sale of domestic products in foreign markets. Today, such a role can be performed by the industries exporting plant products and base metals and products from them. However, a growth initiated by them could become rapid and sustainable only with reforms which would create favorable conditions for small and medium size businesses and change the structure of production and exports in favor of innovative and better quality products.

References

1. Korablin, S. (August 21, 2015). Great Depression. Ukraine. *Dzerkalo tyzhnia. Ukraina*, 30. Retrieved from: http://gazeta.dt.ua/macrolevel/velika-depresiya-ukrayina-_.html [in Ukrainian].
2. Heyets, V.M. (at all, ed.). (2010). Economics of Ukraine for 1991–2009 years. Institute of Economics and forecasting. Kyiv, Ukraine State Statistics Service [in Ukrainian].
3. Taranenko, I.V., Zelenska, V.A. (2015). The impact in world markets of steel products in Ukraine's GDP dynamics. *Ekonomichnyj nobelivs'kyj visnyk*, 8, 108–118 [in Ukrainian].
4. Rebelo, S. (2010). Models of real business cycles: past, present and future. *Voprosy jekonomiki*, 10, 56–67 [in Russian].
5. Mavlianov, S. (2012). Export-led growth and economic development of South Korea: lessons for Kyrgyzstan. International Conference on Eurasian Economies. Retrieved from: http://avekon.org/ papers/532.pdf [in English].
6. Satsyk, V. (2009). Countercyclical regulation of economy of Ukraine in modern conditions the volatility of international markets. *Mizhnarodna ekonomichna polityka*, 1–2 (10–11), 129–156 [in Ukrainian].
7. Vozna, L. Zhalilo, Ya. (2014). Business cycle as a phenomenon of Ukrainian economy: background and forming conclusions for policy makers. *Stratehichni prioritety*, 2 (31), 23–34 [in Ukrainian].
8. State program of development of domestic production, approved by the Cabinet of Ministers of Ukraine of 2011, September, 12, №1130. Retrieved from: http: // www. zakon.rada.gov.ua [in Ukrainian].
9. Kryuchkova, I. (2004). Structural factors of economic development of Ukraine. Kyiv, NAS of Ukraine, Institute for Economics and Forecasting; Naukova dumka [in Ukrainian].
10. State Statistics Service of Ukraine (2013). The costs and resources of households. Retrieved from: http://www.ukrstat.gov.ua [in Ukrainian].

11. Pustovoit, O. (2016). The institutional nature of economic cycles. Experience of Ukraine. Kyiv, Ukraine National Academy of Sciences, Institute for Economics and Forecasting. Retrieved from: http://ief.org.ua/?page_id=5770#pagetitle [in Ukrainian].
12. Coase, R. (1993). The company, the market and right. Moscow: Delo Ltd and Catallaxy [in Russian].
13. North, D. (2000). Institutions, institutional change and the economy, translation. from English. Kyiv: Osnovy [in Ukrainian].
14. Tugan-Baranovsky, M.I. (2004). Paper money and metal. Kyiv: Kyiv National Economic University [in Ukrainian].
15. Solow, R.M. (1957). Technical Change and the Aggregate Production Function. *The Review of Economics and Statictics*, 39:8, 312–320 [in English].
16. Lukinov, I. (1997). Economic Transformation (late twentieth century). Kyiv: Institute for Economics and Forecasting [in Ukrainian].
17. State Statistics Service of Ukraine. (2011). Consumer price index in the 1992–2010 biennium (until December). Retrieved from: http://www.ukrstat.gov.ua [in Ukrainian].
18. Forbes: Three Ukrainian – the list of the richest people in the world (2006, March 10). *RBC-Ukraine*. Retrieved from: https://www.rbc.ua/ukr/analytics/forbes_troe_ukraintsev_v_spiske_ bogateyshih_ lyudey_planety_1141982870 [in Ukrainian].
19. Ukrainian people impoverished, while the number of billionaires is increasing (2012, 14–20 November). *Personal plius*, 46 (503). Retrieved from: http://www.personal-plus.net/503/9799.html [in Ukrainian].
20. World Development Indicators (2014). The World bank. Retrieved from: http://data-bank.worldbank.org/data/home.aspx [in English].
21. Lanovyj, V. (June 16, 2015). Anatomy of a crisis of the Ukrainian economy. *Ekonomichna pravda*. Retrieved from: http://www.epravda.com.ua/publications/2015/06/16/546489/view_print/ [in Ukrainian].

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