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THE NEW CHARACTERISTIC FEATURES OF CYCLIC RECURRENCE OF ECONOMIC DYNAMICS

The article focuses on the basic traits of theoretical concepts and modifying trends outlined in the empirical expression of the regularities which govern the cycle development of the modern stage. The principles of cyclic recurrence are interpreted on the basis of traditional understanding of development of economic cycles, as well as of a new cyclic recurrence form related to the emerging cycles of economic growth. This form is confirmed by recurrent fluctuations in the wavy trajectory of growth over the past 40 years. The transformation process of the "classical" form of the cyclic recurrence into the new one is justified by the realities of economic dynamics in the world, EU member states and the United States during 1971-2010. Particularly, this study covers the dynamics of gross product, employment, unemployment and inflation. It also notes changes in coordination and synchronization degree of these basic indicators applicable for analysis of the economic cycle. New trends are expressed through increasing cyclic resistance and formation of a longer cycle of growth in world economy and the economies of the European Union and the United States.

JEL: E01, E32, F43, F44.

The development of aggregate production in the long run allows certain particularities of its fluctuations to be identified, which may be referred to both traditional general forms of economic dynamics - economic growth and economic cycle. At the end of the 20th and early 21st century, the development of world economy is characterized by the emergence and formation of several new trends in economic dynamics. New sources, driving forces, forms and mechanisms of economic growth and cyclic development arise worldwide. They reflect the ongoing profound changes in technological and organizational principles of production, forming of corresponding economy structure, as well as correlate with the development of processes in information and communication revolution, deepening of relations and interactions among national economies in terms of regional integration and globalization.

Processes in global economy are formed as a projection and a summary of the development of national and regional economies. Globally, the two leading economic powers in the world - the European Union and the USA, have a significant impact on economic dynamics. The reported fluctuations in GDP created in these two major engines of world economic growth largely determine the trajectory, stability or recurrent cyclic nature of global production deviations.

In this respect it is important to identify, characterize and typify the new recently emerging trends in the dynamics of world economy which are generated by the coming changes in forms and mechanisms of economic growth and cyclic development, both nationally and globally.

Cyclic forms of economic dynamics

During the 20th century, in particular until the late 60s, fluctuations of usual cyclic nature prevail in the world and certain national economies. They allow for distinct economic cycles to be identified which are expressed in *recurrently shifting periods of economic growth and economic drop.* These fluctuations correspond to the traditional concepts which state that no repetition in the general direction of economic dynamics exists within a cycle.[1] An ascending and a descending stage (phase) are clearly outlined, which replicate (repeat) themselves over and periodically, without strict regularity. This is the essence of the "classical" picture of economic cycle according to A. Burns and W. Mitchell, who explain that the cycle is characterized by *fluctuations* in aggregate economic activities.[2]

Cyclical fluctuations in aggregate production, expressed through the dynamics of real GDP, are reflected and cause corresponding *coherent dynamics* of indicators on employment, unemployment and inflation. For example, while increasing the volume of aggregate output a certain growth of employment, income and purchasing power of households is achieved that results in higher consumer, investment and hence aggregate demand for goods and provides inflationary pressure on prices. On the very basis of coordination in changes in key indicators A. Hansen draws a more specific definition of the economic cycle as a "fluctuation of employment, production volume and level of prices (both retail and wholesale)."[3] On his part G. Haberler also stresses on the dependency of indicators' dynamics and its importance to economic cycle. But he puts a different emphasis on its nature and concludes that during the economic cycle indicators of aggregate output, employment and inflation "should be sometimes higher or lower than the average or general direction (trend) of development."[4] Thus, in the late 50ies, G. Haberler assumes the possibility that in case of cyclic recurrence the fluctuations are only within the framework of positive growth rates that are lower or higher than the average (vary around the trend). Thereby he accepts indirectly that the requirement for reaching negative rates of change, an absolute decline in real GDP under crisis pressure, is not to be met necessarily.

In addition to the above mentioned general characteristics, each cycle also has specific ones. They are primarily expressed in various factor modality, duration and

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[1] "*The economic cycle* (cycle of economic system) is a period of the economic system development, during which no repetition is experienced in terms of direction changes of the system behavior" (see *Mirkovich*, *K*. The Economic System. Vol. 1 p. 2, Sofia: Trakia-M, 2008, p. 555).

[2] The definitions by Arthur Burns and Wesley Mitchell are generally accepted. Initially, they have been formulated in a separate study by W. Mitchell in 1927 and later in 1946 in a study by both the scientists, focused on problems of measurement of business cycles. (*Mitchell, W. C*. Business Cycles, the Problem and its Setting, 1927; *Burns, A. F., W. C. Mitchell*. Measuring Business Cycles. NBER, New York, 1946).

[3] *Hansen,* E. Economic cycles and National Income. – In: Keynesian Classics, Vol. 2. Moskow: Economics 1997, p. 204.

[4] *Haberler*. G. Growth and Depression. Cheljabinsk: Socium Publishing House, 2005, p. 216.

amplitude of deviations at levels and dynamics of key macroeconomic indicators. Synthesizing the main *general features* of the cycle is the basis to reveal its *intransient* character and nature. *The specific signs* are an expression of a certain *modification in the appearance* and that "the economic cycle is not a repetition of previous cycles but an already *new significant condition* (my emphasis – V.P.), which is only partially similar to the previous, but in many ways quite different..."[5]

Before the beginning of the 70s and 80s of the 20th century it was largely accepted that the economic cycle, as a series of periods of economic growth and downturn (crisis and recession), is not a chance phenomenon but an *expression of a strict regularity*.[6] In this connection L. von Mises points out that the positive impact of lower interest rates on economic growth can only be short-term, as far as "after some time inevitably occurs an economic crisis, a depression."[7] At the end of the 50s G. Haberler argues that "the instability, the tendency to move in one or another direction, is inherent to our economic system."[8] On his part A. Hansen also notes that the tendency to fluctuate "is irrevocable trait of the system of private enterprise, of the market system."[9] In one of his recent researches J.K. Galbraith argues that "under capitalism there is a trend to greater instability. Recurrent periods of decay are set in the system itself. Growth is slowing and gives way to absolute decline."[10]

At the same time *radically different, opposing views* appear during periods of more stable upward economy dynamics. They advocate the concept that cyclic fluctuations gradually disappear, that there are conditions and *opportunities for complete overcoming and mitigating of those fluctuations*, as well as that the economic cycle can be managed by means and tools of macroeconomic policy.

For instance, already in 1926 R. Hawtrey claims that "at present there is no commercial-industrial cycle", although in some of his other studies he accepts that "monetary economy with its existing banking institutions and practices shows a trend towards fluctuations".[11] In the early 50s one of the most prominent analysts of the economic cycle, L. von Mises, admits that "the economic cycle [...] might disappear

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[5] *Grinin L., A. Korotaev*. Retrospective View of the Global Crisis, Moskow: Knizhnij Dom Publishing House "LIBROKOM', 2009, p. 19.

[6] This characteristic is inherent to macroeconomic dynamics, enhanced by most of the prominent researchers and supporters of traditional concept of the cycle such as C. Juglar, K. Marx, F. Engels, Ludwig von Mises, G. Haberler, and the representatives of the Keynesian theory - R. Harrod, A. Hansen and many others.

[7] Von Mises, L. The Free Market and the Enemies. Sofia: Atlas Pubishing House with the Radical Capitalism Institute, 2010, p. 91.

[8] *Haberler*. G. Op. Cit., p. 25.

[9] *Hansen, E.* Op. Cit., p. 203.

[10] *Galbraith, J. K*. A Journey throughout the Economic Time, Sofia: Damjan Jacob Publishing House, 1999, p. 21.

[11] R. Hawtrey's main ideas of the cycle are set out in his article: Readings in Business Cycle Theory, Economic Journal, 1926, as well as in the publications: *Hawtrey R. G.* Good and Bad Trade, 1913; *Hawtrey, R. G.* Currency and Credit, 1919; *Hawtrey, R. G*. Monetary Reconstruction, 1923; *Hawtrey, R. G.* Gold Standard in Theory and Practice, 1947, and others.

some day."[12] Similar conclusions are also expressed in the researches of W. Phillips in 1958 and of P. Samuelson and R. Solow in 1960 in connection with the curve derived by Phillips that takes into account the short-term inverse relationship between inflation and unemployment, as well as in subsequent analyzes of the natural unemployment rate and the modification by E. Phelps of long-term dependency and the Phillips curve.

At the same time, another prominent researcher of economic growth A. Maddison concludes that "the basic rhythm of economic activity is determined by the state. The fluctuations in 1952 and 1958 and the boom in 1955-56 are not economic cycles of spontaneous, self-replicating type, but predetermined ones by the politics [...] Cycles in the classic sense of the word actually disappeared in Europe."[13]

Concepts of mitigating the cyclic recurrence of economic dynamics revive at the end of the 20th century as a reflection of weaker fluctuations and lack of economic downturns in global and certain national economies since the 80s and 90s. In 1993 M. Friedman concludes that "calling the business cycle a "cycle" is a misnomer, because of its non-cyclical nature."[14] Similar arguments are advocated in some Bulgarian researches on the theoretical principles, prerequisites and main directions of the transformation processes in Europe and the world.[15] As a result of the realities and scientific conclusions at the end of the 20th and early 21st century research is directed towards concepts of a more general nature. They support a neutral or more reserved position and attitude putting emphasis on the analysis of *economic fluctuations* rather than on the economic cycle and growth.

A new turn of perceptions occurs after the last global financial and economic crisis of 2008-2009. Concepts of gradual disappearance of cyclic recurrence in modern global economy are rejected while perceptions revive that the crises and the cycle are inherent to industrial economy.[16] In place of the optimistic views on finally mitigated cyclic recurrence in economy development other, more extreme views are held. Among the latter can be distinguished those of Nobel Laureate in Economics for 2008 Paul Krugman who states that "the problems of the economy of depression are still available"[17] as well as those of Nobel Laureate for 2001 J.

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[12] *Von Mises, L*. Op. Cit., p. 106.

[13] *Maddison, A.* Economic Growth in the West. London, 1964, p. 131-132.

[14] *Friedman, M., A. J. Schwartz.* A Monetary History of the United States 1867-1960. Princeton University Press, 1993, p. 678.

[15] For example, according to Tr. Spassov "The new economy is a move towards long-term economic growth with no escalating inflation and very favorable levels of employment while gradually goes beyond the cyclical development" (see *Spassov, Tr*. Market Transformation and Competitiveness of the Transition Economies. Sofia: University Publishing House "Economics", 2006, p. 77).

[16] For example, according to James Fulcher "On the contrary, crises are a normal trait of capitalism, for within itself run so very dynamic and cumulative mechanisms that no stability can be preserved for a longer period of time (...) As the crisis is certainly a recurrent phenomenon in capitalist economies, so is their amazing ability to resume their growth process, when the crisis is over." (See *Fulcher, J.* The Capitalism. Sofia: Zachary Stoyanov Publishing House, p. 246-247;see also *Grinin. L., A. Korotaev.* Op. Cit., p. 17).

[17] *Crugman, P*. Recurrence of the Depression Economy and the Crisis in 2008, Sofia: East-West Publishing House, 2009, p. 8.

Stiglitz who argues that in modern times "economic crises are becoming more frequent and more severe."[18]

Relatively long periods of high or moderate but steady economic growth also pose serious scientific challenges to the theoretical school of economic growth. Despite general ascending trends, the experience in economic development shows that the growth occurs more rarely as an even process in time but more often records certain deviations. As a consequence, the main focus of research in this area has changed. As R. Heylbroner summarizes in the early 90s "today the scientific focus has shifted from finding explanations for these "cycles" of boom and depression to demanding an explanation for *the unevenness of growth dynamics* (my emphasis – V.P.) in the long term."[19]

Indeed, unevenness of growth is justified in fluctuations, reflecting different and possibly shifting pace (rates) of increasing the actual volume of aggregate output. If it is found that those fluctuations repeat periodically and form a wavy trajectory, so the basic principles of cyclic recurrence are also applicable for the process of economic growth.

Realizing a process of economic growth does not automatically and always create prerequisites for stability as well as *does not discount the possibility for induction of certain cyclic recurrence* (recurring fluctuations) in the trajectory of economic dynamics. They are a consequence of process's implementation at *different speeds and intensity*. In case of positive economic growth the rate's magnitude may increase, be relatively constant or decrease. From this perspective, within periods of economic growth the following processes can be distinguished:

• Acceleration of the economic growth (*"Growth expansion")*. In this case a positive rate of real GDP growth is reported which is higher than the rate of the previous year;

• Detention or stagnation of the economic growth *("Growth depression")*. On these terms an economic growth is realized which has equal or similar, in most cases relatively low rate of GDP growth. Under growth depression it might be also possible to have zero real GDP rate of change, the level of GDP remains unchanged;[20]

• Retardation of the economic growth ("*Growth recession")*. This process is associated with contraction of the aggregate output accretions, reduction of positive growth rate of GDP compared to the previous year.

Processes of growth expansion, depression and recession can occur during periods of different length – both relatively short (one to few years) and long-term periods.

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[18] *Stiglitz, J.* The Free Fall. Sofia: InfoDAR Publishing House, 2010, c. 276.)

[19] *Heilbroner, R.* 21 Century Capitalism, Sofia: Critics and Humanism Publishing House, 1997, p. 43.

[20] The process of growth recession may be referred to circumstances when, after relatively long-standing growth rates, a certain economy proceeds to lower or similar growth rates of GDP. An example for such circumstances is the economic development of Japan since the early 90s of the 20th century. While Japan has registered an economic growth at high rates - ranging between 4% and 7% in previous years, after 1992 rates are around or mostly under 1-2%.

In terms of the different nature of possible deviations in the trajectory of economy dynamics, two *alternative forms of economic fluctuations* can be determined:

First of all, based on the change of *direction and the sign* of GDP growth rate, recurring fluctuations can be recognized which give expression to the traditional form of the cyclic recurrence in economic development – *economic cycle.* In this case there is a wavy change of GDP which reflects the transition from positive to negative growth rates of real GDP or vice versa. Within the period there is actually a process of transition from economic growth to economic downturn, or vice versa, which determines the manifestation of "classical" economic cycle;

Second, based on the change of *magnitude of positive GDP growth rates,* recurrent fluctuations in economic dynamics can be determined which generate another more specific form of cyclic recurrence – *cycles of economic growth*.[21] In this case, changes in the basic macroeconomic indicator – GDP, are wavy, covering a series of several (or more) years within which occurs a transition from *growth expansion* to *growth recession*, or vice versa. Ascending trends in the economy are formed by *rising* rates of increase of GDP, while the descending trends include *declining* positive growth rates of GDP.

Primarily as a result of the changing conditions of growth and coordinated efforts for state regulation of the cyclic recurrence of economic dynamics, at present time cases and *periods of growth recession* do more often occur but *do not deepen or develop into economy contraction*. They are followed by periods of restoring the conditions and increasing the positive growth rates, i.e. by new periods of *growth expansion*.

Therefore, fluctuations of economy *go beyond the traditional cycle development* and are not limited to the manifestation of cycles of economic growth, especially in the short term. L. Grinin and A. Korotaev also assume such a different trajectory of cyclical economic changes at specific juncture. They draw the conclusion that many crises after World War II are characterized by mitigated manifestation, on which basis they summarize that "phase of recession sometimes means not absolute decline, but only severely slowed rates of growth."[22]

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[21] Concepts for this type of cyclical fluctuations appear in the progress of the theory of economic growth in the 60s when the school of "cycles of growth" has been developed. A significant contribution to this relatively differentiated thematic trend of growth theory have mainly A. Hansen, R. Harrod, N. Kaldor, R. Goodwin and others (See e.g. *Goodwin, R. M.* A Growth Cycle. - In: Feinstein, C. H. Socialism, Capitalism and Growth, 1967). The concept of cycles of growth have not found a response, because at the time of its creation, and over the next two decades, there was lack of strong evidences in practice and forms of macroeconomic dynamics. Eventually it is proven by empirical data and is demonstrated in the trajectory of the dynamics of GDP since the early 90s in the economies of the European Union and other countries.

[22] Naturally, in addition they do not exclude the possibility for conditions of economic downturn to be developed and also suggest that "crises in the old, sharp, explosive form are always possible." (See *Grinin, L., A. Korotaev*. Op. Cit., p. 40).

The transition from the traditional to the new form of cyclic recurrence is a projection primarily of the capability to neutralize recessionary impulses and to prevent the economic downturn. Limiting the crisis pressure to a process of slowing the growth brings one of the most significant *adjustments in the nature and mechanisms of cyclical economic dynamics in modern times.*

Dynamics and tendencies in global economy

During the last 40 years (1971–2010) the world economy experienced a *continuous* economic growth which lasted until the beginning of the global crisis in 2008–2009. That resulted in significant expansion of the scale of world production – the level of the Gross World Product (GWP) during the period increased over 31.5 times. Statistics shows that the GWP created in 1970 amounts only to 4.6% of the GWP volume for 2010.[23] The only exception of the general trend of positive growth was reported in 2009 when a recessionary downturn was accounted, caused by the overall (global) distribution of the ongoing US financial and economic crises. This single global economic downturn for the whole long term expanded after a temporary slowdown in growth rates which fell from 3.9% in 2007 to 1.5% in 2008. This downturn lasted shortly (one-year period), was not severe (accounted only to –2%) and was overcome in the next year – 2010.

Despite the general trend of growth the trajectory of economic dynamics is broken and not stable. Throughout the whole 40-year period uneven rates of economic growth, constant fluctuations in the dynamics of global production are registered (see Annex, Figure 1). This does not create prerequisites for recession, and economic cycles are not globally differentiated despite the severe crises of the early 70s, the ones from 1981-1982, 1991 and 2001 which affected the economies of many of the larger and more developed countries in the world. On a world level crisis's impulses are only limited to a process of slow down of the positive rates ("*growth recession"*) of the global economic growth during the same years. Thus recorded wave fluctuations of GWP, do not form economic cycles in their classic appearance, but are limited to a transformation of processes of acceleration to delay of the economic growth (from *growth expansion* to *growth recession)*, or vice versa, thus having the *nature of cycles of the economic growth*. This *new form of cyclic recurrence* gives expression to the growing effects of the increased stability of modern economies towards the effect of current cyclical factors. The new form is induced by the economic system reaching a higher degree of maturity, the expanded capacity of production and demand for goods and services resulting from cumulative effects of the previous long-term economic growth.

The dynamics of global production allows to be concluded that, in parallel with the expansion of the scale *cyclic resistance is increasing and a relative*

[23] According to the World Bank data, in 1970 global production amounts to 2,878,849 million dollars while in 2010 it already reaches 63,048,775 million dollars. See data at http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries/1W-EU?display=graph

stability of the global economy is achieved. The nature of the cyclic recurrence of economic dynamics changes and transforms itself from the traditional economic cycles into long cycles of growth of the global economy.

The economic development of EU countries and the USA has a significant contribution to the emerging of a more different economic dynamics on a world level. The production capacity and scale of these economies have increased significantly due to the value of their prolonged economic growth. The EU and USA have become the largest manufacturers each one already creating approximately one quarter or one half together of the global production. Over the last thirty years the development of their economies has accelerated and the U.S. GDP created in 2010 has been increased more than seven times and the EU-27's GDP is over five times higher than its level in 1980.[24] Similar trends are established also for the GDP per capita indicator. During the same period it has increased over four times in the world, in the U.S. it is already five times higher, while in EU countries - respectively three times higher than the average for the world on the whole. This determines an increase of incomes and living standards of their population (though not to the same extent), of purchasing power, proportions of domestic demand, and the scale of domestic markets in these countries.[25]

Given their large economic, demographic and geographic parameters EU and U.S. have been recognized and will continue to play the role of *leading economies* in the world, with fundamental and decisive significance to global economic dynamics.

Economic dynamics of the EU and U.S. during 1971-2010 is described with approximately equal general trends, given that their similarity visibly increased since the 90s of the 20th century (see Annex, Figure 2). Within the 40-years period several short-term (1 to 2 years) recessions are inherent to both economies, from which two or three comparatively long-term economic cycles are delineated. Within these cycles and in most of the period's years a positive economic growth is registered, which is described by fluctuations in GDP growth rates, i.e. *intermediate cycles of growth*. In addition, certain specific features are established for both economies. The achieved growth rates in European economy are lower, but the growth itself is comparatively *more stable*, which is clearly expressed after the 90's of the 20th century. As compared to the EU, deviations in GDP growth rates of the US are sharper and more frequent. In the US economy *V*-shaped as well as *W*-shaped economic downturns or processes of growth recession can be observed.

[24] According to the World Bank data, in 1980 U.S. GDP amounts to 2,768,900 million dollars and increases to 14,582,400 million dollars in 2010; GDP of EU countries amounts to 3,801,269 million dollars in 1980 and increases to 16,250,328 million dollars in 2010. See http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries/1W-EU?display=default.

[25] The positions and scales of both economies are also defined by their large territory and population. In 2010 the European Union (EU-27) is ranked third and the U.S. is respectively the fourth most populated country in the world (after China and India). By territory, the U.S. ranks third (after Russia and Canada) and the EU as a whole is ranked seventh in the world.

The specifics of economic dynamics in the U.S. and the EU are formed under the significant influence of varying degrees of intensity of their economic systems' modification, and of different range of alterations caused by the current information and communication revolution.

For a period of nearly twenty years - from early 90s to 2009, absolute declines in aggregate output have not been registered in the European and American economies. From the beginning of the global crisis and after the spread of its effects a deterioration of growth conditions is observed in general. In 2009 a decline was registered being most profound for the EU (it amounts to -4.2%), slighter for the U.S. (-2.7%) and affects the least the world economy (-1.9%). The last completed economic cycle (between 1991-92 and 2009) has a *large duration* of 18-19 years. Its inner structure is determined by *weaker fluctuations* (except for the decreased to 0.8% GDP growth rate in the U.S. to prevent the crisis of 2001) and *clearly defined cycles of the economic growth*.

Due to these characteristics a conclusion could be made that the economies of U.S. and EU countries suggest certain cyclical fluctuations, but only in case of strictly *prolonged periods of economic growth and of specific and increasing resistance to recessionary impulses*. The *spreading of cycles of growth* is predominant in economic dynamics while economic downturns are prevented or rarely observed. Crises in recent years have *a higher degree of time synchronization*, but have a *specific impact and depth* in the two major economic powers of the world.[26]

The correlation between the long-term wavy trajectory of the mostly positive changes in real GDP of the EU, USA and the world, and the dynamics of *employment, unemployment and inflation* is displayed in a *unique* way. Within the alterations of these indicators there are no registered major similarities and synchronization in shape, interrelated direction of changes, and timing (see Annex, Figure 3 – Figure 10).

The dynamics of GDP and the unemployment rate are more closely interrelated in the U.S. than in the European Union. In the presence of weaker fluctuations and some belated reaction, changes in the unemployment rate roughly follow the deviations in the rate of economic growth in the U.S. in case of opposite trends in both indicators. In the EU, changes in unemployment rates are more gradual and only in the early 90s and after 2008 roughly correspond (in opposite direction) to the dynamics of GDP.

After almost contiguous increasing over the 90s the *employment* indicator in the U.S. has been more clearly decreased after 2000. The lowest level of employment in the U.S. economy has been reached in 2003 thereafter the index notes fluctuations. The employment level in the EU is generally lower than in the U.S. and has almost opposite dynamics. Initially, the employment in the EU decreases, whereas after the

[26] Regarding the crisis of recent years J. Norberg concludes that "never before a financial crisis has occurred *simultaneously in so many places and in such a similar type* (my emphasis – V.P.)." (See *Norberg, J*. The Financial Collapse, Sofia: MaK Publishing House, 2010, p. 10).

mid-90s an increase is recorded. Under existing uneven dynamics it has continued until the global crisis in 2008-2009. Despite the fluctuations of economic growth in global economy the employment demonstrates gradually developing dynamics with almost permanently decreasing aggregate trend. Even taking into account the belated reactions of employment, there is no clear correlation between employment changes and economic dynamics on a global scale.

The dynamics of *inflation* in the EU and world economy is almost identical. Until the end of the 20th century it does not conform (is not synchronized) with the fluctuations of GDP. After a sharp increase in the early 90s the rate of annual inflation declines and has become relatively stable at levels of about 2-3% for the EU and about 4-5% for the world after 1996-1997. Inflation in the U.S. is at the same low levels but it develops under more fluctuations with small amplitudes and relatively stronger relations with the deviations of economic growth rate. Strong similarity and synchronization in the dynamics of economic growth rate and of inflation are found in the early 21st century in the three geographical scales (EU, USA and the world).

It can be concluded that certain modifications occur in the correlation and *coherence of the dynamics of the four main indicators* used for general identification and analysis of the economic cycle. The dynamics of the indicators *does not demonstrate a close interdependence until the end of the 20th century* and it goes in a specific way in European countries, the U.S. and global economy. Changes in employment run *without clearly distinctive connection combined with a lack of synchronization and a lot of significant deviations* from the fluctuations of economic growth, especially at the global level. In terms of changes in unemployment and inflation, a stronger similarity and consistency with fluctuations in economic growth rate are registered *since the beginning of the 21st century when cycles of economic growth are formed.*

The uniqueness of dynamics and of interdependence of key indicators used by the classical theory of economic cycle analysis is clearly expressed. Additionally, the dynamics of world's leading economies indicates a gradual change in the nature of cyclic recurrence over the last forty years. This change finds expression in three main directions:

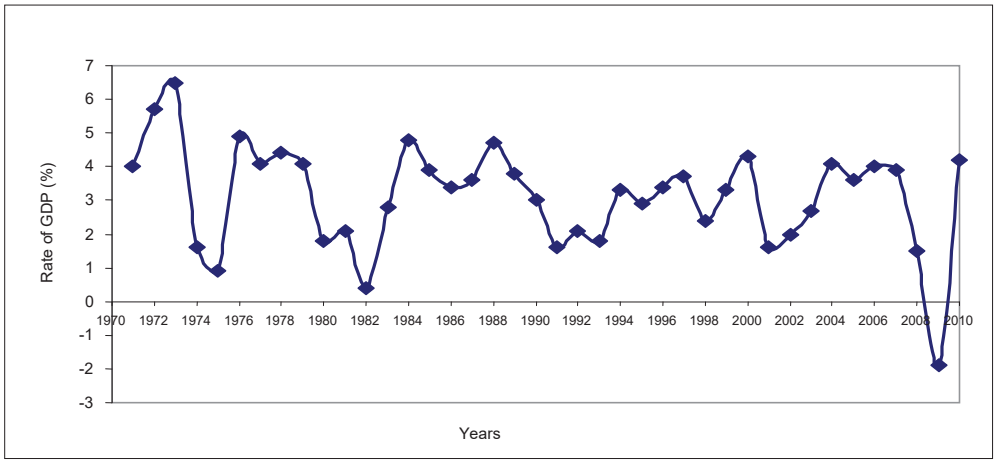
- Prolongation of economic growth periods and of total duration of economic cycles at the end of the 20th and in the beginning of the 21st century (in comparison with the previous periods);
- Shortening and prevention of economic downturn periods and their transformation into processes of growth recession;
- Modification of the traditional economic cyclic recurrence which progressively turns into a cyclic recurrence of the economic growth.

Actual manifestations and specifics of economic dynamics require a different up-to-date interpretation of the causes, nature, mechanisms, and basic characteristic and dynamic features of cyclical development.

Annex

Figure 1

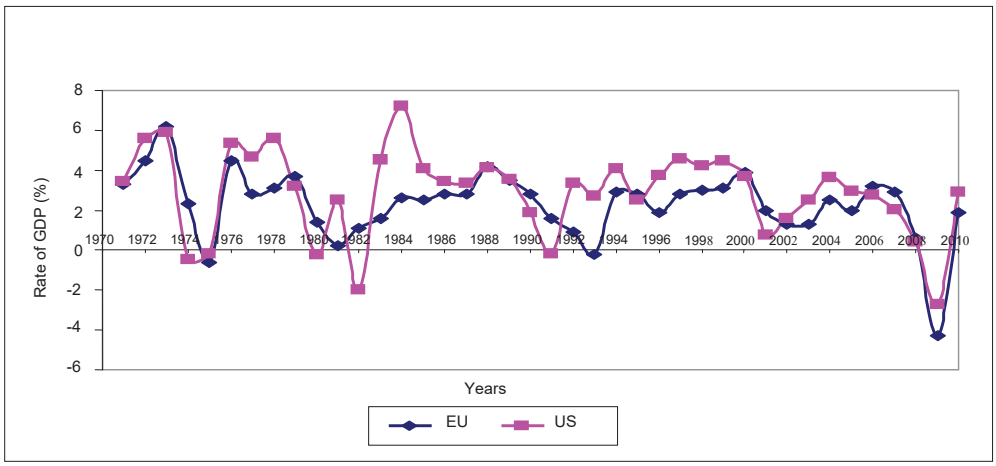
Rate of GDP in the World Economy
(1971-2010)



Source. World Bank data, http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/1W-EU?display=graph

Figure 2

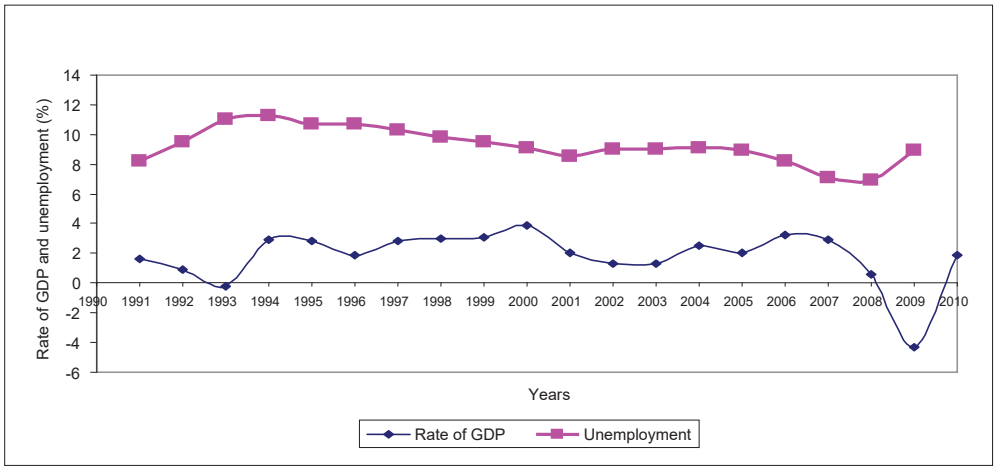
Rates of Economic Growth in EU and U.S.
(1971-2010)



Source. World Bank data, http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/1W-EU?display=graph

Figure 3

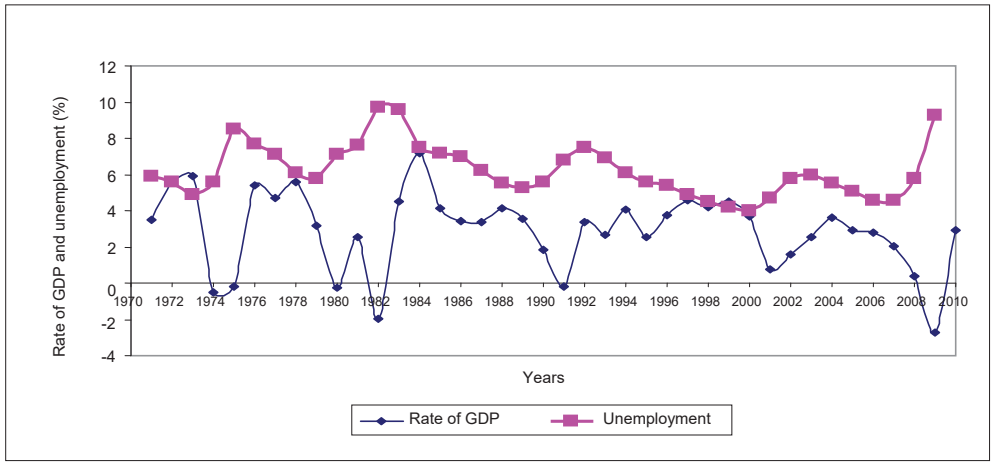
GDP and Unemployment dynamics in EU
(1991-2009)



Source. Figure 2 and World Bank data, http://data.worldbank.org/indicator/ SL.UEM. TOTL.ZS/countries/1W-EU-US?display=graph

Figure 4

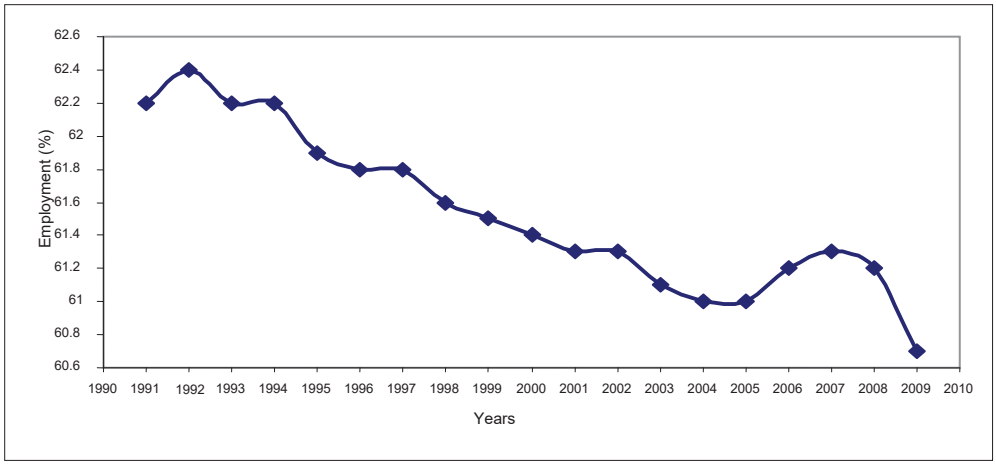
GDP and Unemployment dynamics in US
(1971-2010)



Source: Figure 2 and Bureau of Labor Statistics, United States Department of Labor, http://www.bls.gov/fls/flscomparelf/unemployment.htm

Figure 5

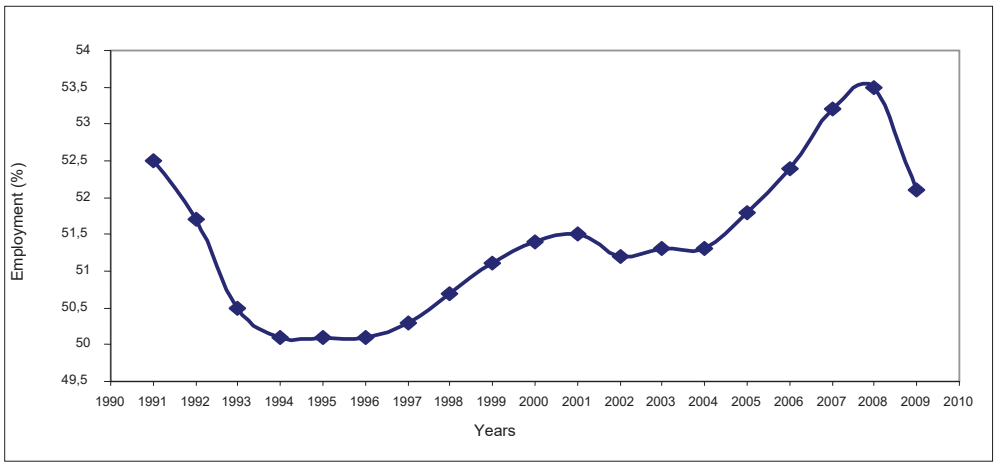
Employment in the world economy
(1991-2009)



Source: World Bank data, http://data.worldbank.org/indicator/SL.EMP.TOTL.SP.ZS/countries/1W-EU-US?display=graph

Figure 6

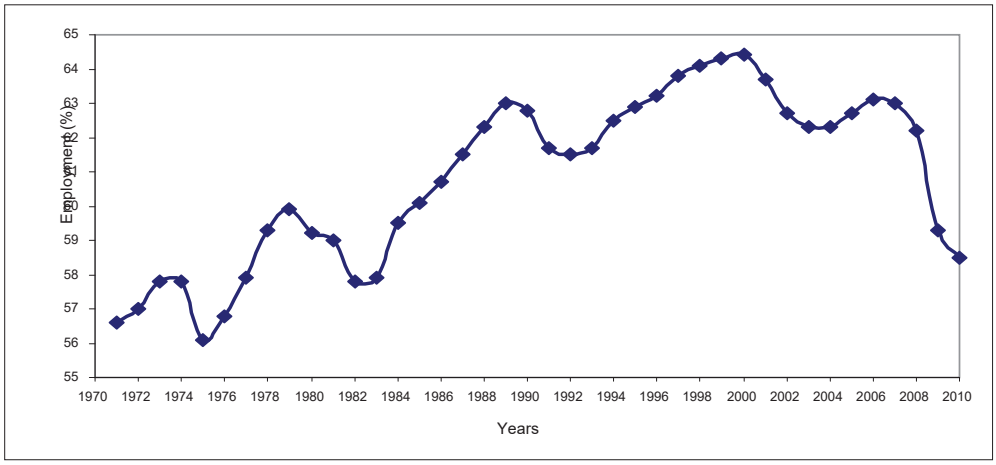
Employment in EU
(1991-2009)



Source: World Bank data, http://data.worldbank.org/indicator/SL.EMP.TOTL.SP.ZS/countries/1W-EU-US?display=graph

Figure 7

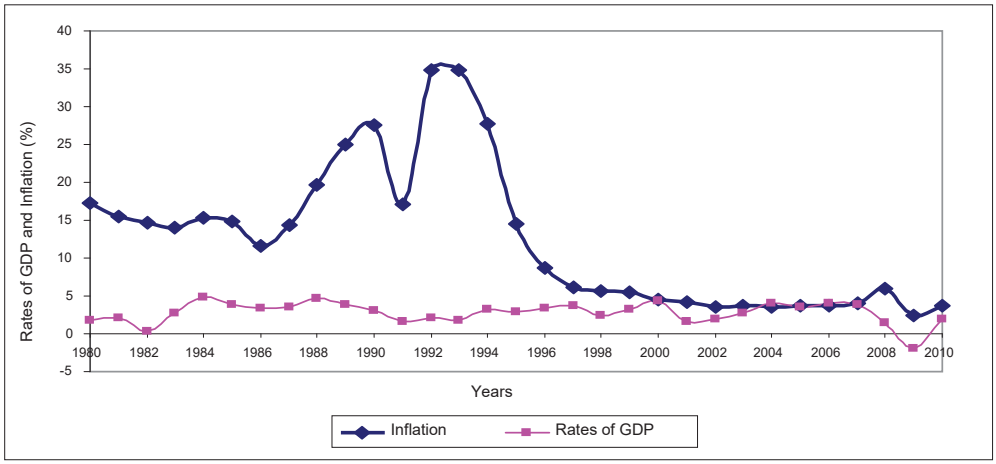
Employment in US
(1970-2010)



Source: Bureau of Labor Statistics, United States Department of Labor, http://www.bls.gov/fls/flscomparelf/employment.htm#table2-10.f.na

Figure 8

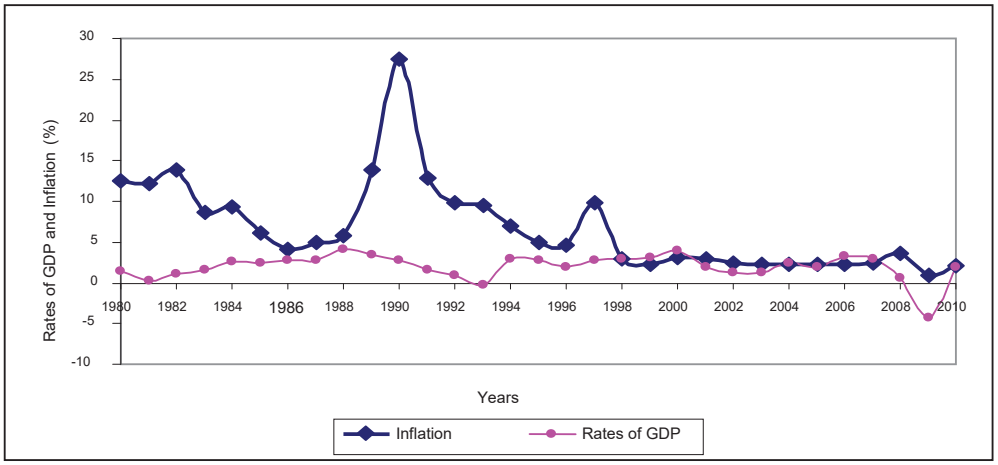
Dynamics of GDP and Inflation in the World Economy
(1980-2010)



Source: Figure 1 and International Monetary Fund, April 2011, World Economic Outlook, http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/weorept.aspx?pr.x=40&pr.y=13&sy=1980&ey=2010&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001

Figure 9

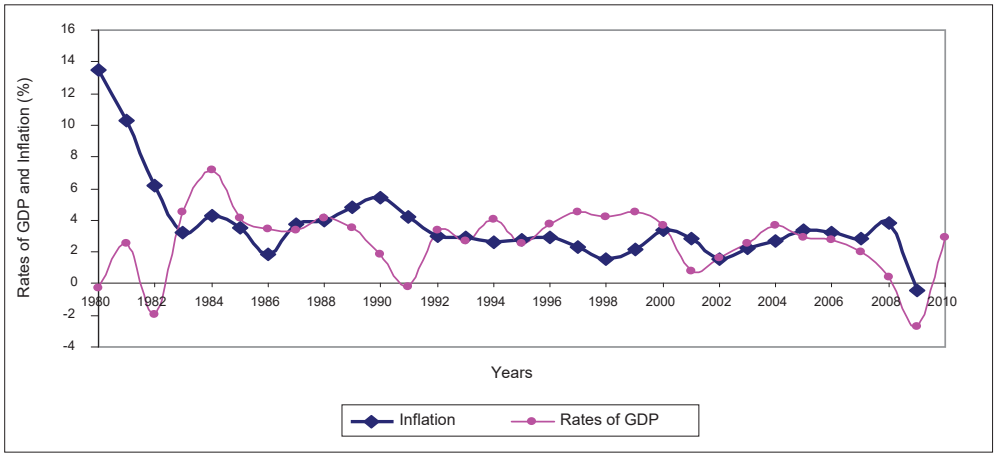
Dynamics of GDP and Inflation in EU (1980-2010)



Source: Figure 2 and International Monetary Fund, April 2011, World Economic Outlook, http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/weorept.aspx?pr.x=40&pr.y=13&sy=1980&ey=2010&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001

Figure 10

Dynamics of GDP and Inflation in US (1980-2010)



Source: Figure 2 and World Bank data, http://data.worldbank.org/indicator/ FP.CPI.TOTL.ZG/countries/1W-EU?display=default

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