

Benchmarking of modernization of the economy of the world: experience for Ukraine

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Abstract

The article contains significant analytical information regarding the study of the experience of economic modernization reforms in the countries of the world and the possibility of applying this experience in Ukraine. A characteristic is given to the technological structures of the world economy and the actual change of structures, the distinctive features of such a change are given on the example of energy prices. The research of the types of modernization - pioneer and catching-up is given, the interdependence between the economic and social cycles of the modernization of society is stated. The examples of modernization both in highly developed economic states (USA, Great Britain, Germany, Sweden) and in the countries of the former socialist camp (Slovakia, Poland, Bulgaria) are given. It is stated that the modern conditions of globalization and the expansion of market relations create special precedents in which a conflict of interests is potentially possible - between objective and subjective factors, namely: the corporate nature of the functional representation system and the individual nature of decision-making. It is emphasized that the modernization of the economy, even if at the initial stage is aimed at satisfying the interests of individual institutional groups, in the course of the implementation of the modernization measures will be reoriented to the corporate interest groups built into the system. Provides effective recommendations for Ukraine in terms of entrepreneurial opening, increasing industrial production in the volume of GDP, completing the decentralization reform.

Keywords: modernization of economics, decentralization, public administration, foreign affairs, anti-crisis come in.

Introduction

The second half of the twentieth century was marked by significant changes in the world economy, which resulted in a number of reform programs in different countries and the formation of a new economic model.

It is obvious to Ukraine that socio-economic reform and technological modernization are not proceeding as fast as planned, with internal obstacles, bureaucratic inertia and administrative conservatism, and political and social resistance. Based on this, it is important to study, analyze and apply the experience of reforms that have been

carried out in other countries. Modern EU regional policy is focused on intensification development of regions by increasing the efficiency of their own potential and competitiveness, in the context of which formed modern paradigm of regional development of Ukraine. The retrospective showed negative characteristics: reduction of the weight of the industrial component of the national economy; lack of significant changes in the technological structure of the economy of the regions; preservation of asymmetry of technological development of regions;

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domination primary sector of the economy. The study of both successful and unsuccessful scenarios of change, as well as their preconditions and factors are relevant and interesting for

Ukraine, because it provides an opportunity to analyze other people's mistakes, and to adapt successful experience of reforms in other countries to national conditions.

Material and methods

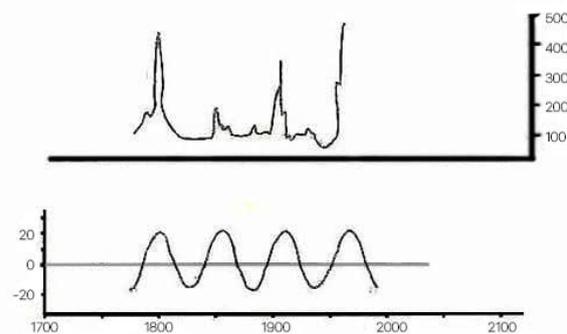
The set of methods used in the study is determined by a wide range of issues to be addressed and aspects of retrospective and scientific review. The main ones are empirical (description, observation) and theoretical (analysis, synthesis, induction and deduction), systemic, functional and sociological methods are also used.

In the world of technical and economic development so far, we can distinguish the life cycles of the five technological systems, which successively replaced each other. Microelectronics and IT technologies are the key factors for the current technological way of life. Among the industries that form its core: electronic components and devices, electronic computers, radio and telecommunications equipment, laser equipment, maintenance services. Today, this technological way is close to the limits of its growth: the rise and fall of energy prices, the formation and collapse of financial bubbles, which are signs of the final phase of the life cycle of the dominant way and the beginning of structural adjustment of the economy which will take place in the next two to three decades.

The process of replacing technological systems begins with a sharp rise in prices for energy and raw materials due to their excessive consumption in the technological chains of the previous system. This surge in prices corresponds to the maximum deviation of energy consumption from the century long trend, which was studied in the 70-80s of the 20th century (Pict. 1).

The jump in prices for energy and raw materials leads to a sharp decline in the profitability of production in the technological aggregates of the dominant technological system. This serves as a signal to the mass introduction of fundamentally new, less energy- and material-intensive technologies.

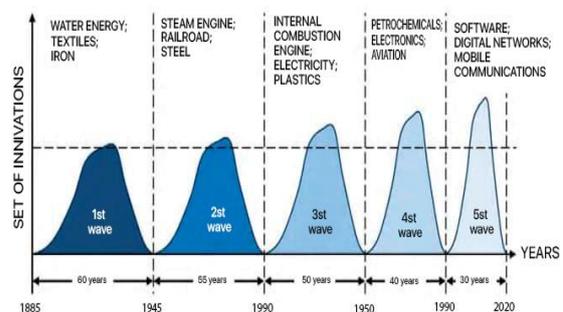
At the same time there is a release of capital from the achieved limits of growth of production of the old technological way. In the final phase of the life cycle of this technological system, which has become dominant, there is a decrease in economic growth, as well as a relative, and possibly an absolute decrease in the efficiency of social production.



Pict.1. Deviation from the energy trend and price index (top chart)

Source. Improved by author for (Marchetti C., Nakicenovic N., 1979)

Certain researchers indicate a tendency to increase the potential of economic development while reducing the duration of each subsequent mode, due to the acceleration of the long waves Kondratiev-Schumpeter from 60 years (1785-1845 gg.) – The first wave, to 30-35 years (1990-2020 gg.) – n wave (Pict. 2).



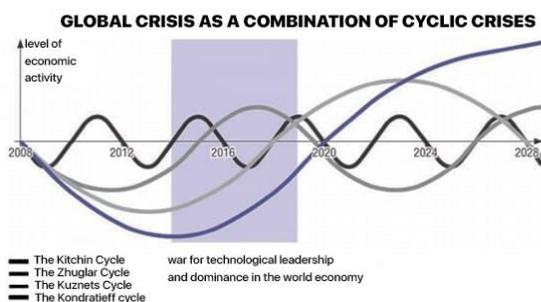
Pict. 2. The trend of development of innovation cycles of economic conditions

Source. Improved by author for (Hirooka M., 2006)

Depending on the phases of the life cycle of the dominant technological system, the driving forces of economic modernization change. In the period of formation of a new way of life, the leading role is played by innovators, who are the first to master its basic innovations. In the growth phase of the technological structure, the trajectory of its development becomes quite definite, the role of innovators decreases, begins to prevail routine activity of entrepreneurs-imitators. These phases are characterized by different mechanisms of economic growth, which differ in the ratio of the roles of financial and industrial capital.

Public investments, funds of educational centers and venture financing institutions play an important role in the formation of the new way of life. In the process of substituting modes, the reduction of investments in the production of the dominant technological mode creates a significant surplus capital, which seeks scope. Financing of firms-imitators of basic innovations also looks very attractive. At the same time there is a high risk of investment in production which has not yet formed a new way of life.

Currently, the new (sixth) technological way out of the embryonic phase of development, the process of replacing them with the previous way, which has reached the limits of its growth. This process manifests itself as a financial and structural crisis in the economies of the world's leading countries, accompanied by a rise and fall in prices for energy and other raw materials. The global crisis as a set of cyclical crises, including long ones, is shown in Pict. 3.



Pict. 3. The global crisis as a set of cyclical crises in the early 21st century

Source. Improved by author for (Liashenko V.I., 2018)

There is a point of view that the technological way is a complex of clusters of technologically related industries. This means that the modernization is a result of changes in historical, social and economic stages of development. In the country, which is the first to succeed in mastering the key factor of the new technological way, there is a leading (pioneering) modernization of the economy, which begins at the first stage of the reproductive cycle of the new technological way and is organic in nature and endogenous in content as it contains prerequisites for its implementation and is consistent with the trajectory of previous development.

In countries that are not the first to master a key factor of the new technological way of life, but have a high potential for the formation of its basic industries and core, the modernization of the economy is also organic in nature and more endogenous in nature. It is carried out by the most economically and technologically developed countries. Therefore, it can be attributed to the organic type.

Modernization of the economy allows to pass the way of its development, previously passed in the economies of the leading countries. In this case, it has an inorganic nature and exogenous content, characterized by the principles of catching up, technological borrowing and imitation of innovations.

The result of catching up modernization is the formation of a stable model of the economy on a new technical and technological basis and a mechanism for self-support of economic growth. In fact, this means a situation of exogenous development, stimulated by the state, to endogenous growth with minimization of its participation.

I believe that the key factors of the new technological structure in the country's economy, which is catching up, may not be mastered for some time, and the economy will remain largely technologically dependent on the countries that own them. For this reason, there is an effect of "modernization trap": the replacement of the previous technological

system with a new one in the national economy is restrained or delayed. Over time, this is a limitation of its further growth, a specific limit of catching up. The lag of technical and economic fallback from the leaders is not significantly reduced. The next wave of modernization of the economy becomes an objective necessity.

As historical experience shows, the radicalization of the state's economic policy in this wave of modernization achieves significant results, but with the "overstrain of society" of the country, "overheating" and structural deformations of its economy caused by exacerbation of technological diversity. These negative phenomena are accompanied by inadequate transplantation of foreign socio-economic institutions, which further destabilize the institutional structure of the economy.

The deterioration of the economic situation in the phase of decline of the dominant technical and economic paradigm also affects the spread of the new one. Depression covers not only traditional but also new industries. Only with a fundamental transformation of the institutional structure are opportunities created for the rapid spread of the new paradigm throughout the economic system.

However, it is not only economic or technological factors that cause cyclical fluctuations. Their study shows a significant influence of civilization, institutional, social factors. The facts of socio-political life during the long historical development show that on the rising wave of the Kondratiev cycle there are socio-political cataclysms (wars and revolutions), and on the lowering wave - "explosion" and flourishing of culture. It can be noted that the deterioration of economic indicators leads to drastic changes in policy, revives democratic processes and social

Results and discussion

Unfortunately, the years of Ukraine's independence were not marked by the implementation of structural socio-economic reforms that would contribute to the qualitative renewal and modernization of the

transformations. Exacerbation of socio-political crises forces society to "survive", generating new social, cultural, philosophical, psychological and other ups and downs. An example is the explosive surge of the volunteer movement in Ukraine under the influence of the socio-political crisis of 2013-2017.

Thus, the study of catching up modernization of the economy in terms of replacing technological systems as a wave-like, rather than linear-translational process, allows us to conclude that it is much more complex than is commonly considered in modern modernization theory.

Economy, being a structural unit of the social system, is subject to its specifics and patterns, between the cyclical nature of the economy and the cyclical nature of social processes there is an organic unity and interdependence. In particular, the basic cyclical lines of interdependence of economic and social cycles can be defined:

- 1) the interdependence of the cyclical parameters of GDP production per capita (the main indicator of economic dynamics) and the cyclical dynamics of real incomes;
- 2) cyclical technological innovations and their impact on the overall dynamics of employment;
- 3) structural adjustment during the economic cycle of the economy, the allocation of its leading industries and the corresponding reform of the professional structure of the workforce, the definition of leading professions, the restructuring of educational institutions;
- 4) the influence of the economic cycle on the formation of socio-value motivations that determine the ratio of consumption and savings, the structure of direct consumption of material and spiritual goods, etc.

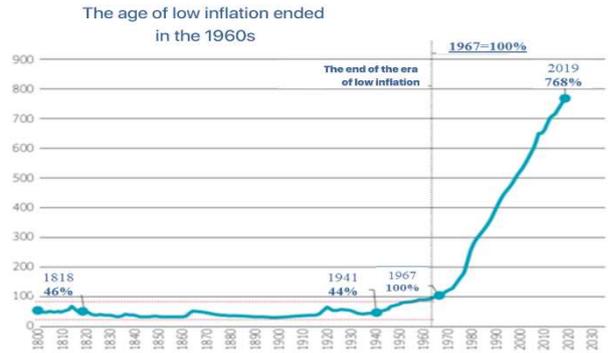
economic system. The mainstream of socio-economic development over the past almost three decades has been a mixture of market mechanisms and archaic state institutions, which Ukraine inherited during the Soviet

system and adapted to new conditions only in fragments.

Outdated technological and infrastructural foundations, physical destruction of a significant part of industrial potential require strategic, scientifically sound structural transformations. There is a comprehensive demand of the society for the renewal of the basic mechanisms of structural development, this is what our international partners demand from Ukraine. These measures will be effectively integrated into the development of the country only if the cyclical nature of modern crises is taken into account. In addition, the experience of leading countries in modernizing the economy will help implement effective reform and modernization of Ukraine's economy.

USA. The experience of the United States shows that the main factor in the modernization of economic change has been scientific and technological progress, which has contributed to positive transformations at all levels. Since the 80s of XX century. The reason for the structural transformation of the US economy was a significant acceleration of scientific and technological progress, the emergence of new forms and methods of organization, as well as the management of innovation processes, expanding opportunities for adaptation of various sectors of the economy to innovation. The reason for the changes was the crisis dominant until the 70's of the twentieth century caseian economic model. The United States in 1971 abandoned the hard peg of the dollar to a fixed gold parity, economic growth stalled everywhere, and unemployment rose. The oil crisis as a result of the Arab-Israeli war of 1973 created additional difficulties for the capitalist countries, complicating the production process.

The "oil shocks" of the 1970s replaced Keynes's ideas with the principles of neoconservatism, most vividly expressed in the activities of British Prime Minister Margaret Thatcher ("Thatcherism") and US President Ronald Reagan ("Reaganomics"). It was then that the era of low inflation, when prices did not change in the long run for centuries, ended (Pict. 4) and the acceleration of inflation significantly changed the situation.



Pict.4. Indicators of inflation in the United States in the 20th century

Source. Calculated by the author based on (International Monetary Fund)

The main provisions of neoconservative theory have defined the conceptual platform of economic policy. The effective actions of Paul Walker, head of the Federal Reserve System in 1979-1987, led to the following results: Contrary to the dogmas of "Reaganomics", the growth of money in the economy continued at a rate of 8-9%. At the same time, bank rates sharply reduced inflation, falling from 13.2% in 1979-1980 to 3.4% in 1982-1987. Thus, the real decline in money supply turns into real growth. This meant a real easing of monetary policy. As a result, in 1983, US GDP began to grow again (+ 4.6%) until the crisis of 2008.

The result of "Reaganomics" was the economic rise of the United States during 1983-1989 and the strengthening of international economic positions. However, the reduction of taxes did not lead to the expected investment growth and acceleration of economic growth. The problem of a deficit-free budget could not be solved. Reducing social spending could not offset the increase in military spending from \$134 billion in 1980 to \$282 billion dollars in 1987. The differentiation of incomes of the population increased.

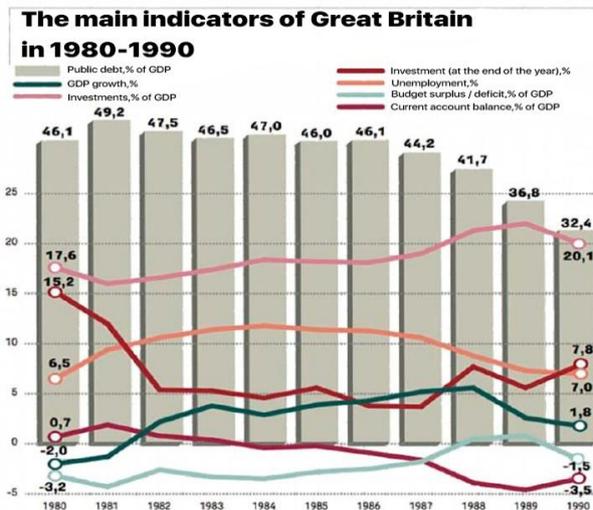
UK. The current objective conditions for the functioning of Ukraine's economy are identical to those of Great Britain in the late 1970s:

- deindustrialization, falling production, lack of energy carriers;
- falling national currency rate, rising inflation, unemployment;

- Housing losses, flirting with trade unions, Labor for many years promised to stop inflation and rising unemployment, to nationalize the shipbuilding and aviation industries, to establish state control over oil production;

- The threat to national security, as a result, is growing wave of separatism in Northern Ireland, Scotland and Wales.

Coming to power in 1979, Thatcher marked a program of modernization of the economy, based on the neoconservative concept. The government relied on free enterprise, personal initiative, individualism, and the abandonment of strict state regulation of the economy.



Pict. 5. The main macroeconomic indicators of Great Britain in the 1980s and 1990s

Source. Improved by author for (Yegorov E.S., 2012)

As a result of changes in tax legislation, the income tax rate was reduced and tax benefits for private businesses increased. The income tax rate of the largest corporations was successively reduced first to 50% and then to 35%. Entrepreneurs' contributions to social insurance funds for employed labor were abolished. At the same time, indirect taxation increased. The value added tax rate has increased (from 8 to 15%). The share of indirect taxes in budget revenues increased from 34% in 1979 to 39% in 1981. Anti-inflation policy was implemented on the basis

of reducing government loans to the private sector, controlling the growth of money supply, raising interest rates, reducing the size of the state apparatus.

"Investments instead of loans" became the mainstream of the economic concept of the Thatcher's Government. The state provided only freedom of action for entrepreneurs and low taxes for investors. Mass privatization as a second step for the influx of investors. As a result, the domestic investment market in the UK began to grow sharply, and with it began to grow and the country's economic performance, which led to the modernization of industry. Beginning in 1983, the economy began to recover, and average annual output growth was about 3%. Then, unexpectedly for many, the United Kingdom in terms of economic growth broke into the European leaders. Throughout the 11 years of her presidency, Margaret Thatcher has persistently reformed the financial market, which has eventually turned London into a global financial center, attracting capital from around the world for 30 years.

Germany. Noteworthy is the experience of modernization changes in Germany, which was based on the appeal of business to science, which is recognized as the main generator of innovative projects. Implementation of large infrastructure projects has provided progress in the development of fundamental technologies and science of production, which contributed to the formation of high-tech industry.

Germany's experience in reorienting the economy to innovation and modernization is important. It is to support practical cooperation between science and business, expand cooperation networks and pool the potential of research institutions and companies through the creation of innovative alliances and clusters. The main forms of interaction between the state and the real sector of the economy were the creation of technology parks, innovation centers, technology incubators and more. This made it

possible to combine investment with the scientific potential of universities and research institutes.

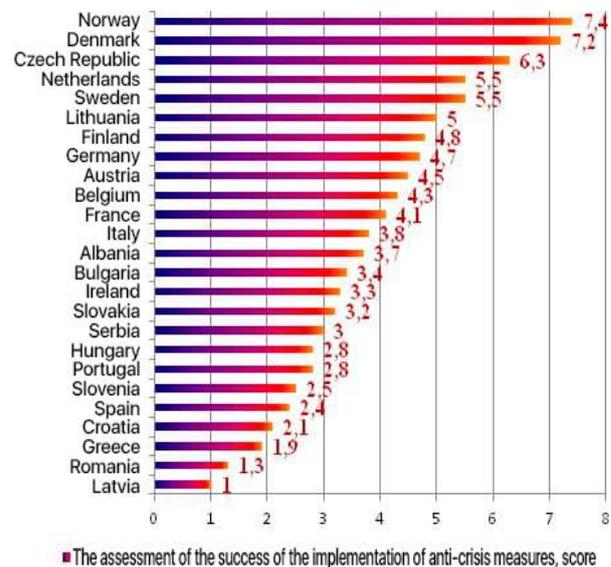
A number of programs and mechanisms have been launched in Germany to improve the R&D environment and accelerate the implementation of innovations. The main purpose of government programs to support innovation is to share risks with companies or organizations working on the introduction of innovative products or services, and the condition for receiving state support is the introduction of a new product or service that provides a significant innovation "jump" compared to existing counterparts in the country. outside it, contribute to the strengthening of the company's competitive position in foreign markets, increase the efficiency of its activities, etc. Yes, the "*High Technology Strategy*" adopted in 2018 (HTS 2025) aimed to gain the status of a global innovation and technology leader for Germany in the coming years.

The mainstay of the German economy is small and medium-sized businesses. All strategy programs are primarily focused on their support. And innovation centers, in the role of which technology parks act, become effective platforms for their development. According to data for 2020, there are 350 technology parks in Germany, on the basis of which 12 thousand innovative companies operate. During 35 years of operation of technoparks on their basis 45 thousand enterprises were created, the survival rate of which was 99% - a colossal result. The missions of HTS 2025 are: Technology and Mobility, Sustainable Development and the Environment, Health and Transformation.

Reforms carried out by Central and Eastern European countries can be divided into three groups: 1) countries of "shock therapy" – Poland; 2) countries of stable progressive development of reforms - the Czech Republic, Slovakia, Slovenia, Hungary; 3) countries of slow pace of reforms – Bulgaria, Romania. Hungary, Poland and the Czech Republic have

been the most successful in carrying out reforms.

Studies of European anti-crisis analysts to assess the effectiveness of anti-crisis measures for Eurozone countries, which are expressed through a score, are shown in the following table (Pict. 6) (assigning the first point characterizes the ineffectiveness of anti-crisis measures, assigning the third point - more or less effective measures, 7th point - absolute efficiency).



Pict. 6. Assigned a score of the success of anti-crisis measures, score

Source. Improved by author for
(Mioara Chirita, 2012)

One of the most successful countries in terms of anti-crisis measures was Sweden with a score of 5.5. During the global financial crisis of 2008-2009, the country experienced a number of financial difficulties, in particular, the weakening of financial discipline, reduced solvency, etc. The anti-crisis measures of the Government and the Central Bank of Sweden concerned such areas as monetary policy, maximum promotion of business development, and interest rate management in terms of their reduction. Such actions led to a certain drop in the crown. Prevention of the decline of production and strengthening of competitive positions was provided by a number of measures to maintain the liquidity and solvency of the bankers.

Sweden's international cooperation has helped strengthen the banking systems of neighboring countries. Thus, in May 2008, the Central Banks of Sweden, Norway and Denmark co-financed significant costs of the Icelandic financial and banking system. The governments of Sweden and Denmark have assisted Latvia in agreeing on a stabilization program with the IMF.

Bulgaria. It should be emphasized that in the Eurozone, along with developed countries, certain results in achieving anti-crisis measures were achieved by countries with "low incomes". Thus, the economic system of Bulgaria, in the period 2006-2009, demonstrated significant stabilization, the global financial crisis has affected its economy with negative effects, according to the National Statistical institute, only in 2015, the state budget deficit of -5.8% of GDP was recorded (Pict. 7).



Pict. 7. The state budget of Bulgaria 2006-2015, % of GDP

Source. Calculated by the author based on (National statistical institute, Bulgaria)

To overcome such problems, the Government of Bulgaria has introduced a number of measures:

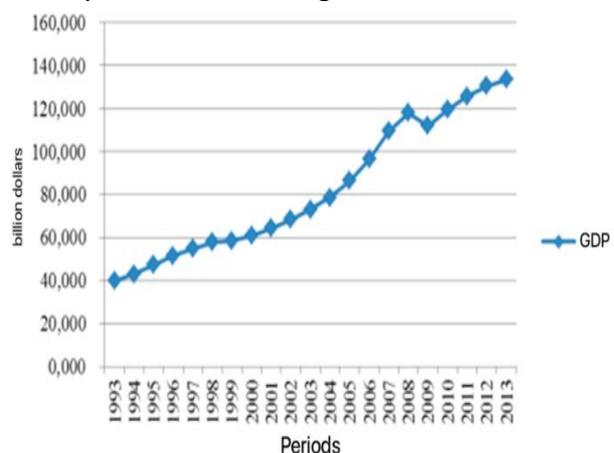
- taxes on real estate and cars in the first class;
- benefits for civil servants have been removed,
- increase of VAT by 2%;
- taxation of pensions for persons who continue to work full time is introduced.

During this period, the state financed measures not only from the state budget of Bulgaria, but also in the framework of European institutions.

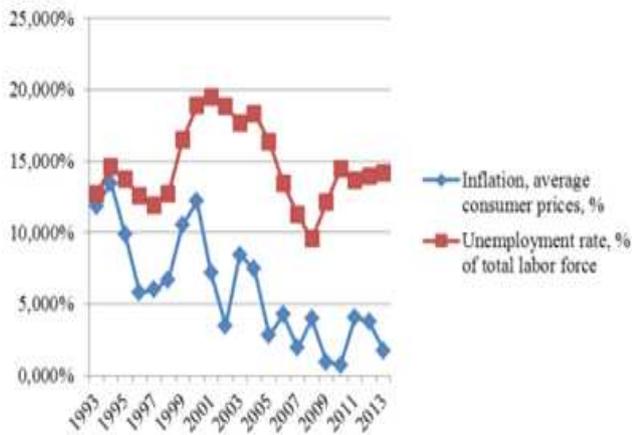
Slovak Republic. The country's economic shifts were the result of domestic political shifts. In Slovakia, the three-level hierarchy of territorial public administration (municipality - district - region) has been eliminated and a new hierarchy has been created. Districts were divided into smaller territorial units – districts – to which they delegated some of their responsibilities. In the 1990s, the reform of the public administration system led to the horizontal integration of local public administration and the creation of a second level of territorial self-government. However, it was not possible to form a holistic system of regional bodies of territorial self-government and to consolidate the autonomous nature of municipalities. Since January 1, 2002, eight large self-governing territorial units have been established, to which the powers of regional local government bodies have been delegated.

At present, Slovakia has an ESO program (effective, accountable and open government). This is a significant reform of public administration and its goal is to streamline work, ensure the quality, transparency and accessibility of public administration for citizens.

Slovakia's reforms are in some ways innovative. A feature of Slovak municipalities is their functioning as a self-governing community with autonomous powers. Macroeconomic indicators of Slovakia at the beginning of the XXI century had the following form:

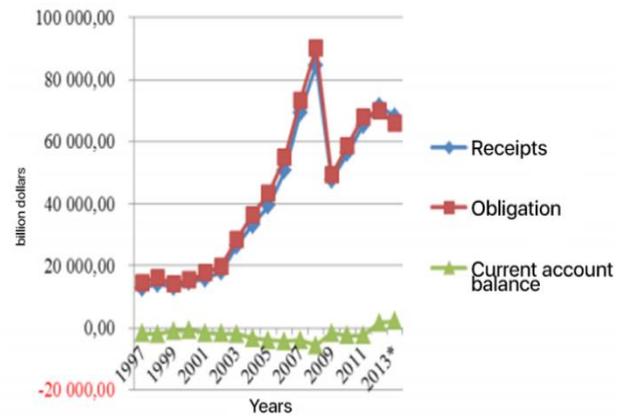


Pict. 8. Dynamics of GDP of Slovakia
Source. Calculated by the author based on Slovakia – Economic Indicators



Pict. 9. Dynamics of inflation and unemployment in Slovakia

Source. Calculated by the author based on Slovakia - Economic Indicators



Pict. 10. Dynamics of the balance of payments of Slovakia

Source. Calculated by the author based on (Slovakia - Economic Indicators)

Conclusions

To summarise the conducted research it is worth noting that the implementation of modernization measures contributed to alleviating the manifestations of the crisis for the economy and population in such countries as the United States, France, Sweden, Poland, the Czech Republic, Great Britain, China, Austria, Germany, Finland, Lithuania, Denmark and Norway. Most European countries have managed to support financial, socio-housing, employment, investment and international business activity through improving employment legislation, increasing jobs, especially for young people, coordinating the efforts of various government departments to develop and implement economic policies, by strengthening state intervention in the economy.

The vast majority of euro area countries noted the main conceptual contradiction of effective decentralization: structural reforms of the economy, which are usually accompanied by some temporary distortions in the distribution of finances vs. ensuring a fair distribution of economic reform results on expected growth.

In the conditions of economic troubles caused, including loss of production potential, deindustrialization of Ukraine's economy, insufficient level of entrepreneurial activity, shortcomings of fiscal policy, significant level of

shadowing of the economy, as well as pandemic consequences and quarantine restrictions, modernization of economy, efficiency of public administration should take place in both qualitative and quantitative dimensions, taking into account the experience of the world's leading countries.

Modern conditions of globalization and deepening of market relations create certain special precedents, under which there is a potential conflict between objective and subjective factors, namely: the corporate nature of the system of functional representation and individual, client nature of decision-making. Thus, modernization of the economy, even if at the initial stage will be aimed at satisfying the interests of only one institutional group, such as innovative companies, government agencies, local communities, etc., during the implementation of modernization measures are likely to refocus on built-in corporate interest groups.

We should not forget about the issues of social modernization of society, which are parallel processes with the modernization of the economy. After all, the quality and quantity of public services, the expansion of which is permanently declared, especially in terms of achieving the goal of reforming the administrative-territorial system, as well as the

ability of public authorities to address social modernization, determines the effectiveness of the entire government.

Given the fact that trust in public authorities and effective local self-government are perhaps the most important sources of social value of the state, the end result of modernization of the national economy and Ukrainian society is its consolidation, preservation and development of national humanitarian space, ensuring harmonious coexistence and human,

overcoming corruption, etc.

Public administration reform processes can be seen as the application of a combination of institutional, technological and human resources tools. Citizens are able to assess the work of public administration not only on the criteria of quality of service received personally in the relevant bodies and services, but also on the ability and ability of the Government to organize work to provide socially important and sought-after results policy.

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