

FUTURE TECHNOLOGICAL DEVELOPMENT OF UKRAINE UNDER GLOBALIZATION

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Abstract. This article presents a analysis of the future technological development of Ukraine under globalization. It course aimed at the innovation development is based on the structural reconstruction of economy, technological updating of industry, wide application of achievements of science and engineering. in the context of globalization.

Key words: globalization, technology integration, development of science and technology, competitiveness, innovation.

I. Introduction. The main feature of the processes taking place in the today world is the global integration in economics, politics, in development of science and technology, environmental protection and social well-being. Ukraine being an independent state lives in the interconnected and interdependent world. Under the existing conditions of globalization of economic life the industrialized countries in which science is the major factor in economic development ensure their progress by improving the existing technologies, techniques and methods and by consistent implementation of principally new scientific knowledge and technologies. International technological and scientific exchange, transfer of the intellectual potential are the characteristics of the present time.

Because technology integration under globalization research is so important, many foreign and domestic scholars examine this issue, especially those by M. Alle, O. Belorus, G. Kolodko, H. Manilovska and L. Yaremko, D. Lukyanenko, T. Tsyhankova, A. Filipenko, S. Sidenko, O. Plotnikov [1-9].

II. The goal of this article is to analyse a strategy of the future technological development of Ukraine under globalization.

III. Results. The strategy of economic and social development of Ukraine foresees as the priority of the state policy the structural

reconstruction of the industry, development of the innovation model of economic growth, strengthening of Ukraine as a country with high technologies. It is presupposed by the fact that at the beginning of the market transformations Ukraine had considerable possibilities for development of its economy, in particular, in the scientific and technological field. But the analysts' predictions that Ukraine and other countries of Eastern Europe would quickly follow up the road of high technologies development and economic growth similar to that of some Asian countries have not come true.

The process of market transformations, which had not been adequately studied from the point of view of the control theory and was not methodically grounded, has resulted in a sharp fall of the gross production output during the first nine years and reduction of high technology production as well as scientific and research activities. At the beginning of that period the following slogans were most popular "The market will sort out all the problems of the new country", "The West will quickly accept us to their community as an equal member". Any western product and the way of life in general were taken as the paragon which was to be blindly followed. Everything produced in the country from the very beginning was considered second rate having no prospects and noncompetitive. Foreign trade was growing quickly and uncontrollably. The immense sums of money taken from the Ukrainian economy were spent for procurement and purchasing of various western products including industrial equipment that, naturally, could not be modern and competitive. As a result, the Ukrainian scientists, designers and engineers along with their inventions were out of demand. The chain that had united science and education with industry for many years was broken.

The strategic objective of economic changes in Ukraine envisages the innovation development that can be accomplished only on the basis of structural reconstruction of economy, technological modernization of industry and agriculture together with a wide use of advanced technologies. The innovation development envisages shifting of the stress from the conventional

scientific and technological solutions to application of principally new progressive technologies and also transition to output of high technology products, introduction of new organizational forms, such as technoparks, technopolis, the policy of resources and power saving. Implementation of the priorities of scientific and technological development is being accomplished, unfortunately, not within the framework of the unified national program of advanced technologies development, but is connected with a number of separate state scientific and technical programs (SSTP) for sorting out various problems. Scattering of state funds and state clients, absence of the unified coordinating center result in: insufficient financing of programs; incomplete implementation of programs; low rate of the priority innovations' implementation into production. The low level of salaries of scientific personnel results in an increase of the outflow of young gifted scientists, who emigrate to the industrialized countries (Germany, USA, Great Britain, Austria), where special programs exist for involvement of promising scientists from the countries of Eastern Europe including Ukraine.

However, the problems of introduction of scientific and technological developments into production remain unresolved. Today more than 90 % of the Ukrainian products have no up-to-date scientific and technological support, which does not make most of these products competitive and profitable. The financial situation at many enterprises does not allow them to introduce new technologies and involve and keep employed highly qualified specialists. In accordance with the expert estimation Ukraine loses 10 billion US \$ annually because of insufficient application of modern scientific and technological achievements. The experience of operation of technoparks, small scientific companies and other innovation enterprises shows considerable possibilities of new innovation structures in solving the problems of new technologies introduction.

During the recent years the legal basis of international cooperation in science has considerably improved in Ukraine. The scientific and

technological cooperation between Ukraine and the European Union (EU) is being developed, mainly, within the framework of the Fifth Frame Program in the field of scientific and technological development. In particular, the initiatives of EU in the field of scientific and technological development are implemented (INTAS, TACIS, COPERNICUS and other programs). Ukraine has confirmed its membership in an intergovernmental international organization called the Joint Institute of Nuclear Research, which, in the same way as participation in the programs of the European Center of Nuclear Research makes it possible for Ukrainian scientists to take part in carrying out fundamental research in the field of high energies study. Russia and other CIS countries traditionally play an important role in the international scientific cooperation of Ukraine. Special attention here is paid to formation and implementation of the joint Ukrainian-Russian scientific and technological projects in the field of new technologies, in particular, in the common priority direction of "Nanophysics and nanotechnologies".

Despite notable success in international scientific and technological cooperation it lacks in systemic character and strategy. The shortcomings in the state of international cooperation are as follows: non-systemic character of the Ukrainian scientists' participation in international organizations activities, which is due to the absence of financial support of the international scientific and technological cooperation on part of Ukraine; absence of a smoothly functioning system of providing information about the major international organizations, the dates of the international scientific and technological events and others; systematic non-fulfillment by Ukraine of the obligations on international cooperation programs because of discontinuation of financing.

First of all, Ukraine is concerned with such problems: First, liquidation of the consequences of the Chernobyl catastrophe. It requires a complex of scientific and technological measures for utilization of the sarcophagus, restoration of the ecology on most of the territory of the Eastern-European

region (Ukraine, Belarus, Russia, Poland and other countries), putting out of operation the Chernobyl Nuclear Power Plant itself and utilization of nuclear fuel. Secondly, solving the problems of contamination of the Black Sea and Dnieper river basin. These problems worry not only the countries of the Black Sea region, but also the countries of Europe and Asia. What is required is a sharp decrease of waste discharge into such big rivers as the Danube, Dnieper, Don, Southern Bug, Dniester and others. Third, solving the problem of flooding and soil displacements in the Carpathian Ukraine, Slovakia, Hungary and Romania. Climate warming, unjustified felling of woods, deviations from the accepted technology in dike construction result in tragic consequences for the entire region.

Ukraine, in its turn, having considerable scientific and technological potential can propose to the international community cooperation in the field of aviation and space technologies ("The Sea Launch" Project, the joint manufacture of AN-140, AN-70 planes and others), resources and power-saving, development of new substances and materials, protection of natural ecosystems and improvement of life conditions, and others.

IV. Conclusions. While estimating the technology development forecast in Ukraine two aspects should be taken into consideration. First, the necessity of development of collaboration with the European bodies and organizations, first of all, in implementation of the programs of the interstate, regional scale taking into account the experience and international influence of UNIDO [United Nations Industrial Development Organization]. Important is also legislative and legal support on part of Ukraine of the international scientific and technological cooperation. The second aspect of the problem is connected with the internal improvement of organization and financing of the scientific and technological sphere in Ukraine. The main tasks here are the following: raising the role of the state in reforming the science and technology system during transition to the innovation model of economic development; improvement of the financing mechanism of the scientific-technological and

innovation activities by means of the optimal use of the state and non-state funds in creation of new technologies, material stimulation of scientific work at the level of the developed countries; legal and legislative protection of the intellectual property created by the Ukrainian scientists; wide implementation of the progressive organizational scientific and technological structures, such as technoparks and business incubators along with ensuring proper favorable terms at their initial stage.

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