JOURNAL
OF EUROPEAN ECONOMY
Vol. 1 (№ 3). December 2002
Publication Ternopil Academy of National Economy

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WAYS TO FORM INNOVATION-ORIENTED MODEL FOR ECONOMIC GROWTH IN UKRAINE

Abstract

The paper defines on what conditions regularities for the various elements of economic growth of the innovative type can be implemented in Ukraine.

Key words:

innovations, investments, competitive advantages, macro-, microeconomic policy, national system of economy, structural and technological restructuring of economy, economic growth.

1. Modern paradigm of economic growth

The growth of GDP in Ukraine since late 1999, as asserted by national statistics, has become an ever-present part of triumphant statements of Ukrainian officials who view this growth as the proof of the proper economic policy pursued. But these triumphant figures when commented by experts evoke no enthusiasm. And that is not surprising, since we cannot speak about economic growth in general with no regard to the problem of its quality and to the progressive innovative changes.

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The modern theory of economic growth allows one to formulate a number of postulates that are of principle importance to substantiate the concepts of forming a national economic system oriented at economic growth of innovative type.

First, a key factor of modern economic growth is the scientific and technological progress that contributes, in experts' estimates, from 70 to 90% of the total growth. Other important factors are investments in «human» capital and production capacities, development of legal system, stability of macroeconomic and political environment, and insignificant difference in incomes of population.

Second, the peculiarity of economic growth is its unevenness. Each fixed period of time is marked by its own macro-generation, i. e. by a variety of sectors and industries which make up a dominant technological type and serve as a booster for the economic growth. Expansion of the defined macro-generation plays a leading role for the formation of economic growth rates. At present, macro-generation is dominating in material and technical base of the most developed world economies representing the fifth technological type within the framework of industrial technological production. At the same time, the elements of new macro-generation are being formed within these economies. They represent the sixth technological type, which in many aspects is transitive to the technological type of production.

Third, the present day economic growth that can be considered as the economic growth of innovative type is of global nature and greatly depends upon competitiveness of particular national economies and upon their comparative advantages. The countries with economies regenerating on the basis of the most up-to-date achievements in science and technology have greater potential for economic growth. Dominating in global economic environment these economies have an opportunity to realize their comparative innovative advantages, particularly by claiming scientific and technological quasi-rent. The countries being deprived access to base technology of prevailing technological type usually are economically dependent and in unfavorable position that becomes fixed due to foreign economic exchange.

Fourth, «the great depressions» that periodically happen in world economy are linked to accumulation of structural disproportions and exhaustion of innovative potential of macro-generation that dominated at the former stage of economic growth. To overcome the depressions is possible by means of so called «creative destruction» and modernization of existing institutional and technological economic structure on the basis of implementation of innovations of successive technological type. These depressions are of global nature. The countries able to avoid them completely or surmount sooner than others acquire additional advantages in competition and, therefore, gaining higher rates of economic growth.

Fifth and finally, each technological type corresponds a certain system of economic institution and form of production organization which provides enlarged re-generation of relevant productive and technological systems. Re-

generation of the currently leading fifth technological type is characterized by prevailing domination of global financial and industrial groups, by extensive state regulation of foreign economic exchange and stimulation of scientific and technological progress, by developed system that supports innovative activity, preferential employment of flexible management with higher involvement of companies' employees, by substantial redistribution of private sector resources into a public one with the aim to invest into human capital, transport and information infrastructure, and scientific research.

The application of mentioned above principal theoretical postulates for the analysis of the growth of Ukraine's economy allows one to substantiate a number of practical recommendations that fundamentally differ from methods suggested by supporters of radical liberalism doctrine and unsuccessfully applied in Ukraine's transition economy. Therefore, to implement recommendations that follow, the further transition to a qualitatively new economic policy is required.

To be more precise, we mean proposals to formulate the national model of economic management that would ensure sustainable economic restoration on basis of innovations.

Continued economic growth of innovative type in the Ukraine's transition requires integrated formation of technological, institutional and organizational structures capable to unify all necessary elements into general regenerating framework of a new technological type and to create preconditions for modernization and higher efficiency of the whole national economy. Also, favorable macroeconomic environment should be created and adequate behavior and organizational forms of micro-level subjects are to be introduced.

In particular, the task arises in a technological area to create elements of a new macro generation, i.e. to design new productive and technological systems and to facilitate their development while modernizing related industries. With this goal in mind, the following problems are to be solved: first, based accumulated scientific and production potential to «raise» the production and financial facilities that would be capable to compete on the world market; second, to import needed technologies; third, to stimulate efficient diffusion of industries of a new technological type; fourth, to create a system for training personnel with the required qualifications; fifth, to protect the sales markets of domestic products from foreign expansion; and sixth, to ensure favorable from the viewpoint of a new technological type development of a new economic mechanism.

In the institutional area the task arises to form such economic mechanism that would ensure the following: first, redistribution of resources from industries that have no apparent prospective into productive and technological systems of a new technological type; second, concentration of the resources where the economic mechanism is developing; and third, to modernize the economy as a whole, to increase its efficacy and competitiveness on the basis of new technologies. To implement this task, the privatization, tax, financial, monetary, regulation, price and income policy should be pursued.

Similar aims should define the policy of improving organizational and production structure of the national economy. It is important to stimulate these organizational and production innovations which could continuously restore their economic potential in the conditions of fierce international competition, ensure continuous increase of production efficiency fostered by cutting-edge technology.

Its macroeconomic policy should create favorable conditions for fulfillment of the above tasks; it should guarantee stability, sound investment and innovative climate and support competitiveness of national economy with adequate monetary and financial policy. Therefore, on the micro-level, ownership rights should be clearly defined, which if implemented successfully will raise responsibility for management of enterprises, funnel entrepreneurial activity into higher production efficiency and into progressive technological and managerial innovations.

The determined range of tasks helps to formulate the proposals in regard to efficient policy, to form national economic policy focused on economic growth of innovative type in the Ukraine's economy. This policy comprises two components and envisages on the one hand, creation of general macro- and micro-economic prerequisites for the development of manufacturing, investment and innovative activities, and, on the other hand, special measures to stimulate progressive structural changes via diffusion of industries of the fifth technological type, as well as advance implementation of fundamental innovations of the successive technological type.

2. Main directions in creating of macro- and micro-economic preconditions to ensure economic growth of innovative type

The core of macroeconomic policy in current economic situation should be the creation of conditions that yield from expanding production activity and enlarging investments into its development. It will normalize the system of currency circulation, form mechanisms to credit production, decrease interest rates, set up institutions to finance investments into manufacturing, reduce tax levy on manufacturing and investment activities, level the price disproportions, and protect domestic markets from unfair competition of importers.

To solve the payment crisis, recover financially industrial sectors and the country, create favorable investment climate, and to avert recurrences of debt crisis, the following actions should be taken.

First, the problem of liquid resources deficit in real sector of the economy should be solved which in its turn would result in eliminating of a payment crisis. So far the «creators» of the economic policy in Ukraine consider these problems as collateral in regards to support of stable national currency and to achievement of a non-deficit budget. The very deficit of liquid resources and payment crisis are the major factors of industrial instability. Henceforth, the policy of «expensive money» should be transformed into the policy of «efficient money»; the rigid policy of monetary stock regulation should be switched to that of interest rate regulation followed by successive reduction and support of money supply in accordance with demand for credit resources in manufacturing industries.

To implement the above, a mechanism to refinance commercial banks with loans against securities of solvent producers should be applied alongside with present channels of currency emission. It will require the National Bank of Ukraine (NBU) to organize solvency monitoring of big and medium businesses, to ensure transparency of its emission policy, and to conform it to the objectives of national economy re-monetarization. In its turn, access to the NBU credits will oblige companies improve transparency and efficiency of their activities, encourage the businesses' restructuring in line with the need to be more competitive. With this monetary policy (currency supply) the major function of currency emission is ensured, i.e. crediting technical and technological innovation of existing industries. By reducing interest rates the NBU stimulates the growth of economic activity; while raising rates it makes the economic efficiency very hard to achieve. It allows for an opportunity to pursue flexible monetary policy in accordance with priorities of innovative development. Transition to the monetary policy under consideration calls for prevention of money outflow into the field of financial speculations that do not involve reproduction and expansion of manufacturing production, for tightening control over currency exchange and emission of securities in order to prevent the appearance of «financial pyramids», and to block existing channels of illegal currency convertibility with the aim to thwart outflow of capital and speculate against national currency.

The shift in the currency supply policy will resolve the problem of «excessive» money supply as the respective adjustment of interest rates will ensure investment into manufacturing industries.

Second, the government should tighten its control over money emission and fix respective limits for currency supply to replenish gold and foreign currency reserves, refinance commercial banks, credit institutions of development, restore personal savings, restructure the banking system, support settlements, and take the improvement as a priority of national importance.

Third, the national banking system should be restructured with the aim to heal it and cleanse from organized crime, and to resume banks' saving and investment functions. The mechanism of savings convertibility into production investments should be restored via commercial banks. For that purpose the state support for restructuring of commercial banks should be strictly linked with these

banks' crediting of a real economic sector with investments into innovations and development of production.

Fourth, actions should be taken to improve the structure of money supply and to cut down the cash component in particular.

Fifth, the policy of forced restraining of national currency depreciation should be replaced by the policy that allows for fluctuations in proportion with internal inflation aimed to ensure competitiveness of domestic goods.

Sixth, the tax pressure on industries and earnings should be eased, the incomes should be exempt from taxation if they are invested into development of production, R&D, and implementation of innovations. The tax system should be simplified and taxing period extended.

Seventh, the budget policy should be based on the project-oriented approach while adhering to legally adjusted quotas for education, science, and health care budgeting.

Eighth, the activity of monopolies should be strictly controlled, particularly over pricing. It will help lower inflation and eliminate price disparity.

Ninth, the following measures should be taken to protect domestic market: to curb unfair foreign competitors' activity through levying customs duties and imposing non-tariff restrictions; to set rigid control over the quality of imported goods; to deny foreign capital of any preferences; to restrict foreign investments into the areas sensitive to national security.

The provision of favorable macroeconomic conditions as such for production activity is not sufficient to start the mechanism of economic growth. After a fivefold shrink of capital investments into production area, formation of speculation oriented investments, and depreciation of the basic assets, additional steps to increase investments in production are required. In particular, they foresee, first, restricted issuance of securities exclusively with investments aims; second, establishment of financial institutes which would provide flows of available credits into development of production; third, applying stimulation to financial innovations; fourth, introduction of control over the movement of depreciation funds of businesses and their targeted investment; fifth, restriction of all alternatives for capital employment beyond the real sector; sixth, strengthening the role of the state in investment demand formation; seventh, creation of firm barriers against illegal outflow of national capital abroad and stimulation of its refunding to Ukraine.

The cited recommendations to normalize macroeconomic environment favorable for proper investment and production activities in existing conditions, when production capacities are greatly underemployed and demands are depressed, should be complemented with special measures to widen aggregate demand. Such frames of positive feedback as «production-demand-investment-production» and «production-returns-demand-production» are the indispensable condition for the growth of market economy.

On the microeconomic level absence of a relevant system for motivating efficient property management still remains a major problem. In particular, formal change of a proprietor - the result of voucher privatization - was not supported with economic responsibility and was not ensuring in this way economically efficient management with sustainable development in the long run. That is why a package of measures is needed to adjust the property relations. First, the privatization results should be inventoried if it was in conformity with the law and if the new proprietor fulfils obligations stipulated by agreements on public property purchase and sale. If no violations revealed, ownership rights should be guaranteed. Second, a rigid system of responsibility should be imposed for efficient management of state property. Third, more strict responsibility norms should be applied to employed officials towards their share holders, employees, and the state, for efficient use of corporate property. Fourth, favorable conditions should be created for effective integration of financial, production and intellectual capital, to stimulate and provide governmental support to FIG (Financial and Industrial Groups) capable to survive on their own in conditions of fierce international competition, to direct the privatization of corporate shares still owned by the state with the aim to set up competitive businesses. Fifth, to cleanse economic activity through strengthening state protection of property rights; to make efficient litigation of economic disputes; to impose strict responsibility for breach of contracts, in particular for undue repayment of credits, etc. Sixth, to establish state control over turnover of the land.

A special issue is related to the current financial insolvency of a great number of enterprises. The problem cannot be solved without selective revival of some of them. Economically effective solutions should be based on scientific, technological, industrial and structural policy. The selective state support to competitive enterprises should be focused on technological reconstruction or modernization on the basis of prospective innovations of a new technological type. We should proceed from the same principle in pursuing the policy to improve the national economy as a whole and as its parts related to «raising» FIG competitive on world market.

3. Principles of structural and technological restructuring of Ukraine's economy

The next component in forming the national economy oriented at the innovative type of economic growth is a package of special measures for ensuring structural and technological transformation restructuring on the basis of introduction of innovations of a new technological type. These measures foresee reaching the following key objectives. First, it is necessary to counter the present day economic crisis in structural economic developments. Inconsistent business activity should not cause the closing of progressive businesses of a new technological type that have prospects on world market and are capable to become to

boost economic growth. The idea implies to convert the crisis potential into restoration of healthy national economy. Classic economic crisis rejects obsolete and inefficient businesses, thus clearing the ground for economic growth on modern technological basis. Second, the rapid reunification of national science and production complex should be stopped for good. Conditions should be created to maintain personnel, preserve knowledge, technologies and apply them in prospective areas (i.e. develop a new technological type and accumulate achievements for a successive type). Third, objectives and priorities of the state structural and technological policy should conform to the comparative advantages of the Ukraine's economy; they should be linked with objective trends in global technological and economic development based on the implementation of a new technological type. The state should concentrate its support on production and science, realize these priorities by implementation of relevant target-oriented innovative projects. Fourth, development and implementation of state priorities of structural and technological policy should guarantee creation of preconditions for successive increase in private investment activity and economic growth by applying new prospective technologies. Fifth, it is important to ensure setting up competitive economic entities that could work in the conditions of fierce competition – both on domestic and world markets – concentrating resources on potentially promising production.

The measures to accomplish these major objectives cannot be limited only with leverage of direct state influence. What really matters is to provide effective support to private incentives aimed to introduce a new technological type and to stimulate pertinent investment activity of entrepreneurs. The point is to provide free access to authentic scientific and economic information and to develop pertinent information systems.

Now the state is, on the one hand, to preserve prospective businesses and create conditions for their development in unfavorable macroeconomic situation, and on the other hand, to facilitate the withdrawal of capital from obsolete insolvent businesses, to restore and restructure relevant production capacities. The solution of this two-side problem requires a number of interrelated packages of innovations. It is a package of measures to maintain scientific and technological potential of Ukraine including the following principle issues.

First, the state should keep financing science and stimulate scientific and technological progress averting devaluation and reduction, allocate of no less than 3% of GDP for the RGW; increase governmental subsidies to scientific research and tax exempt expenditures on RGW.

Second, special steps should be taken to encourage innovative activity providing state support to implement risk projects of prospective innovations.

Third, to replace «important» financing of scientific institutions by financing innovative projects on competitive basis in conformity with priority trends of new technological development.

Fourth, to preserve information infrastructure of R&D including a network of scientific libraries, and to keep in working condition research stands, experimental and research facilities.

Fifth, subsidize expenditures to protect intellectual property and to copyright it in Ukraine and abroad.

Sixth, put into effect priority trends in science and technology including intellectual capital of our compatriots residing abroad.

The package of measures to develop technological potential covers the following: first, elaboration and implementation of national projects on the development and dissemination of primarily resource-saving key technologies of the fifth technological type. Second, stimulate conversion of military industry technologies into civic. Third, recognition and support of those innovations which would ensure competitive advantages of national companies on the world market. Fourth, design and implementation of development projects in specific areas with high concentration of scientific and technical potential, especially research parks. Fifth, the state support of infrastructure that would ensure commercialization of the R&D activity. Sixth, active governmental purchase of advanced equipment and its further leasing to speed up the renewal of basic assets. Seventh, subsidizing of imported new foreign technologies and encouraging export of products with high level of processing, i.e. providing support to national enterprises to be included into global environment of a new technological type.

Meanwhile, it is urgent to start re-orientation and modernization of businesses and industries that exist only because of state support despite their economic inefficiency and inadequacy to implemented structural and technological evolution.

Efficacy of proposed specific measures to transform structurally and technologically the national economy mainly depends upon properly chosen priorities. From a scientific and technological viewpoint these priorities should satisfy the perspectives of a new technological type formation and prompt development of the successive technological type. From the economic view, the state support of priority directions of development should meet three critical requirements: first, to produce considerable external efficiency, improve general economic environment and conditions for business activity. Second, to foster business incentives relevant to priority productions, i.e. to provide multiplication effect, to generate powerful impetus on the growth of demand and on gaining business activity. Third, to foster competitiveness of pertinent businesses when the latter take independent path of recovery within the frame of world market and later become the «engines of growth» for national economy. From a social view, the national priorities of structural and technological economic restructuring should be realized alongside with broadening and optimization of employment, retraining of employees, increase of their real income, and improvement of living standard.

The trends meeting the considered criteria and to be reflected in pertinent programs of state support could comprise the following:

- renewal of civil aviation fleet, depreciation rate of which reached critical point; technical facilities to manufacture airliners of new generation are available;
- re-equipment of power energy complex including modernization of nuclear power stations;
- modernization of railway traffic control systems that will essentially improve the railway capacity and provide prompt services;
- development of existing transport centers aimed to increase speed and reliability of combined transportation, introduction of supply management systems operating under slogan «punctually, promptly», and expansion of inter-regional and international cooperation in production;
- technical and technological re-equipment of agricultural industry and related processing sectors;
- expansion of information infrastructure on the basis of satellite and optical fiber communications, and cellular communications in cities;
- steady raising the rate of housing construction by using modern technologies;
- transformation of social infrastructure employing domestic equipment, and;
- improvement of environment with the help of ecologically clean technologies.

Taking into account that national high-end technology and science-intensive industries were over militarized, realization of available capabilities to expand the new technological type and structural evolution is impossible without state support of conversion. The latter is to become a key trend and general priority of economic and innovative policy in the country. This state support should comprise employment of all possible instruments to pursue policy in state purchase, budgeting the R&D, tax credits, loan guarantees for production expansion, forms to encourage creation of FIG's, subsidies to import technologies, and targeted investment projects, etc.

4. Strategy of implementing competitive advantages of national economy

State economic and innovative policy should also be oriented at implementation of competitive advantages of national production. World experience of successful structural transformations proves that a key aspect in this area is the support of those sectors of national economy which could become the breading ground for economic growth of the world market scale. Ukraine has a number of competitive advantages, though their implementation is complicated with serious discrepancies in the economic structure and vulnerability in international distribution of labor.

The principal national competitive advantages could be regarded as follows: first, cheap but rather highly qualified labor force; second, low capital intensity of RGW sector with comparatively developed infrastructure allowing to conduct research and available significant accomplishments in a number of areas of science and technology; third, lasting presence of national science-intensive products on the markets of certain countries; fourth, considerable underused production capacities allowing to expand volumes of exportable products with comparatively low costs if managed properly; fifth, available unique advanced developments and inventions in a number of industries commercial application of which allow for expansion of highly competitive exports.

With regard to mentioned vulnerabilities that impede implementation of competitive advantages, they comprise the following:

first, actual absence of financial, organizational and information infrastructure to facilitate competitiveness of national exports and rationalization of imports; second, unfavorable changes in global environment that caused the loss of many traditional markets for national products; third, tough protectionism of the West; fourth, concentration of most competitive technologies in military-industrial establishment, and objective challenges of their conversion or transfer to civil industries; fifth, low production efficiency and extremely large material expenditures; sixth, outdated organization of production, maladjustment of managerial structures at the majority of enterprises to active market strategy and to survival in the conditions of fierce market competition; seventh, rapidly depressing domestic demand for high-end technology because of reduced state orders for science-intensive products.

Taking into consideration these restrictions, the strategy to gain from competitive advantages and integrate national economy into world global economy, should include the following issues:

First, stabilization of traditional science-intensive export including promotion of supply in full sets for the objects that provide technological assistance.

Second, exploitation of competitive advantages linked to cheap basic factors of production. It can be achieved by means of the following: a) preservation and development on the basis of resource-saving technologies metal-consuming products of machine building industry including machine parts and half-finished products of ferrous metal; b) setting up productions that complete their production cycle in industrialized countries (mainly it refers to types of machine-building consuming products, equipment for food and light industries, and trade facilities); c) deployment of assembling facilities that produce goods from interchangeable components imported to Ukraine (specifically, assembly of automobiles, household electric utilities and electronic goods,computers); d) foundation of enterprises that provide international cooperation in manufacturing on the basis underused scientific and technological potential of national high technology businesses, research and design institutions; e) placement of orders in Ukraine for carrying out R&D's, providing other science intensive services in those areas

where the country has highly qualified specialists and fundamental achievements that meet world standards.

Third, implementation of dynamic competitive advantages accomplished in high technologies. As it is known, manufacturing productions that employ unique technologies and can become export leaders are guarded by the state. First of all, it refers to air and space industries, laser, nuclear production, shipbuilding, etc. Advancement of export potential of these industries, if maintained and developed, providing they are unclaimed on internal market, will allow to reach a number of priority objectives of innovative policy. Expansion of science intensive production that meets requirements of the world market, above all would give impetus to pertinent technological advancement in relevant production, to their technological and organizational modernization. Consequently, scientifically and technologically advanced businesses would become the engines of progressive structural and organizational developments, transformation of production organization, and enhancement of national economy.

Prospects for integration of mentioned above productions into international labor distribution lie upon the two exceptionally complicated problems to be resolved.

First, adjustment of technologies implemented in these products to the requirements of world market plays the key role. Taking into account specific for national military-industrial establishment high material- and power-consuming production, many of Ukrainian technologies when calculated in the world prices would not reach a threshold level of profitability and, consequently, to be competitive. In other words, the adjustment might require replacement or upgrade of some links in technological chain, or even of whole blocks. And this is impossible without integrating into global networks of TNC's on the markets of respective both intermediate and final products.

Second, real and potential national competitive advantages are usually concentrated in those sectors and markets where foreign competitors including TNC's oppose especially rigorously, are supported by their state and supragovernment bodies, and whose functioning is the integral part of geopolitical interests pursued by leading countries and their groupings. Therefore, entrance into these markets and realization of competitive advantages are impossible without active state support including the use of adequate trade policy.

Efficient integration into international labor distribution foresees parallel breakthrough in all three specified directions. Nevertheless, the principal direction implies implementation of competitive advantages of higher rank achieved in unique national technologies and accomplishments.

The stated ideas will remain unrealized unless the core of our national economic policy is the Ukrainian consensus serving to reach the main objectives, priorities and mechanisms of national economic development instead of Washington or even Post-Washington consensus.