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A METHODOLOGY TO ASSESS THE TECHNOLOGICAL POTENTIAL OF STRUCTURAL TRANSFORMATION OF THE NATIONAL ECONOMY

The authors develop a methodology for the measurement of a country's technological potential for structural transformations on the basis of the product space concept. The proposed economic-and-mathematical model enables the researcher to measure a country's technological capability to compete on the markets of medium- and high-technology products. Cross-country indicators of technological potential for structural transformations and technological capabilities for production of medium- and high-technology products are calculated on the basis of the proposed model. Technological capabilities for agricultural machinery in Ukraine are analyzed as an example.

The measurement of a country's technological potential for structural transformations is based on the analysis of development level of its technological factors. The proposed indicator enables the researcher to measure a country's technological capabilities to develop medium- and high-technology industries as well as to assess the possibilities of the introduction of new industries to affect a country's technological space. This indicator makes it possible to compare the development level of technological factors for a particular country with that needed for a sustainable presence at the medium- and high-technology goods market. Among others, such factors include physical capital, appropriate infrastructure and labor force with the necessary knowledge and skills.

According to the product space concept, the probability for a country to develop the manufacture of a new product depends on the distance from this product to those already successfully exported by the country. The main characteristics of this space are proximities and densities of goods, which are defined accordingly to their revealed comparative advantages.

The technological capability to manufacture particular medium- or high-technology product is defined on the basis of comparison of its density to the weighted mean densities for the countries that are leading producers of this good at the world market. Using the product space characteristics and the technological capability indicators, the authors define the technology potential for structural change as the weighted mean product of the medium- and high-technology goods densities and the technological capabilities of countries for every good. The weights in this model are defined on the basis of the structure of the market of medium- and high-technology goods.

The proposed methodology enables policy-makers to forecast the effects of economic policy measures creating incentives for the development of certain sectors and industries. It can be used as a tool for simulation of a possible increase in technological capability caused by the growth of particular industries or for the evaluation of risks resulting from slowing up.

The proposed model is universal and can be used for any classification of goods. Since input data are freely available for most countries, the model can be used for comparative cross-country analysis and may be extended for the analysis of international and regional markets. The database obtained as a result of the authors' calculations allows to analyze technological capabilities of countries for 1031 products since 1996 and can be used as a scenario analysis tool in industrial policy making.

Key words: *product space, economy's technological capability, foreign trade, technological potential, structural transformation.*

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REAL EFFECTIVE EXCHANGE RATE OF THE UAH: AN ASSESSMENT OF THE COMPARATIVE ADVANTAGES OF UKRAINIAN GOODS AND FORECAST FOR 2013–2014

The article describes the main factors determining the conditions and prospects of Ukrainian exports on foreign markets. Based on the expected dynamics of Ukrainian and world GDP, changes in the terms of trade in goods and services for the CIS, the authors outline the exogenous conditions that describe the opportunities and constraints shaping for domestic products on the markets of different countries.

For the analysis of price competitiveness of domestic goods, the article justifies the use of dynamic partial indexes of the real effective exchange rate for specific product groups. The authors present the results of calculations of the dynamics of composite index REER for 2000–2012 calculated on the basis of the information regarding the geographical structure of Ukraine's trade turnover using the consumer market price index as a price indicator. There is a detailed analysis of partial REER calculated for product groups (with two-character UKTZED) during 2000–2012 taking into account the average 2010–2012 geographic structure of exports (for the "export basket") on annual basis (2000 taken as starting point).

Based on the scenario forecasts, the composite index and partial REERs for 97 product groups, the authors show the export price advantages of the domestic products, which can be obtained with the use of exchange-rate and pricing policies.

Key words: *real effective exchange rate, price competitiveness*

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RESTRICTIONS OF CASH SETTLEMENTS IN UKRAINE: PROBLEMS AND PROSPECTS

The article, based on the analysis of the experience of Northern American, Euro zone and CIS countries, generalizes the strategies, measures and mechanisms of cash limitation. The author also analyzes the proportion of non-cash instruments in a series of countries and the preconditions for the development of special payment systems and identifies the level of the development of non-cash instruments in Ukraine and characterizes the state measures on cash limitation.

The article provides a series of recommendations to solve the problem with large volumes of cash flows in Ukraine, which are currently hindering this country's economic development limiting the efficiency of regulatory monetary policy. The recommendations include the expansion of non-cash payments and special non-cash payment systems through the development of non-cash payments infrastructure, improvement of the banks' marketing strategies and timely modernization of the electronic payment systems and information technologies.

Key words: cash, cash limitation, non-cash payment instruments, payment cards, ATMS, POS-terminal.

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ADVANTAGES AND RISKS OF FOREIGN INVESTORS' PARTICIPATION IN THE PROJECTS OF PUBLIC-PRIVATE PARTNERSHIP

The purpose of this article is investigating the role of foreign investments in a contemporary globalized economy as a factor of acceleration of the national economic development.

Based on the analysis of international trends in the investment projects involving foreign investors the author proves that active gross fixed capital formation, particularly in low- and middle-income countries, is largely determined by the availability of efficient mechanisms to attract foreign investments into the national economy. In this context, the implementation of advanced mechanisms for investment planning based on public-private partnership is one of the promising areas of infrastructure development, which is currently growing in the world.

Author focuses on the following aspects of the development of investment cooperation mechanisms: the development of the concept of the role of foreign investments, the definition and explanation of their functions for the development of a national economy, the setting up of an effective institutional framework for cooperation among government, business and international organizations, issues of involvement of international organizations for economic development and transnational corporations in the design and implementation of the public-private partnership.

Keywords: public-private partnership, foreign direct investment, investment policy.

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THE CYCLICITY OF FISCAL AND MONETARY POLICY IN UKRAINE

In the proposed article, the author analyzes the relation of fiscal and monetary policy to the cycles in economic activity of Ukraine. In the process, he conducts a detailed econometric analysis of the time series of macroeconomic variables to identify the characteristic trend type. The purpose of this research is to determine the characteristics of cyclicity for the discretionary measures of fiscal and monetary policy in Ukraine. The object of research is the formation of financial policy under the cyclical fluctuations in the economy.

Unlike previous researches, the author indicates the high probability of the presence of stochastic trend in Ukraine's GDP. As a result, in the article, the decomposition of Ukrainian GDP cycles is conducted not through the deterministic linear or polynomial trend, but with the help of Hodrick–Prescott filter. Using econometric methods, the author calculates the coefficients of the correlation between the detected cyclical component of GDP and various instruments of fiscal and monetary policy. As instruments of financial policy, the author considers: balance of the NBU interventions on the foreign exchange market, the NBU discount rate, the average rate for all NBU instruments, overnight loans rate, net liquidity injections of NBU, and discretionary budget deficit. As a result of the analysis, it is detected that fiscal policy in Ukraine is acyclic, and monetary policy has a heterogeneous nature of cyclicity depending on the instruments.

Summarizing the presented study, the author notes that, in the light of the recent years' increasing controversy concerning the coordination of fiscal and monetary policy, the conclusion on a low and ambiguous correlation between the macroeconomic instruments indicates that they are neither complementary nor substitutive relative to each other. The main conclusion is a neutral fiscal policy in Ukraine and an active use of the NBU's monetary instruments as a response to cyclical fluctuations, which, however, has a sterilizing character.

The neutrality of discretionary budget deficit raises the question of the very existence of fiscal policy in Ukraine as an instrument of economic regulation. This problem requires a deeper analysis. Due to space limitations, the author pays no attention to some points that could better highlight this aspect; however, he outlines the main areas for further analysis. The results of the estimation of the fiscal policy cyclicity parameters may depend on

the variable used to identify discretionary fiscal policy. An alternative approach would be to use a cyclically adjusted budget balance. In addition, the author highlights a number of issues that may have a significant impact on the results of econometric estimates and require a detailed consideration in subsequent studies.

Key words: *trend, unit root, stationary process, autoregression, permanent and transitive shocks, economic cycle, political cyclicality, discretionary fiscal and monetary policy.*

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THE KNOWLEDGE RESOURCE AND QUALITY OF LIFE OF THE POPULATION OF UKRAINE'S REGIONS

Based on the developed methodological approaches, the article reveals the relationship between the available knowledge resources (potential of knowledge based economy) and the regional level of quality of life, and provides a "map of knowledge based economy of Ukraine's regions." The author justifies the conclusion that Ukraine has a largely spatially differentiated knowledge resource with a very high level in the country's center (Kyiv) where more than a third of all nation's researches are concentrated, and a low level in almost all the remaining regions.

It is revealed that, among the factors significantly affecting the formation of knowledge based economy, and, accordingly, all its components, is the development of human potential, which, provided its effective involvement in the market economy, becomes human capital increasingly determining the country's national wealth. Particularly close is the relationship between knowledge based economy, hence the knowledge resource whose subject is a person, group, organization or country, on the one hand, and innovation based development as evidenced through the formation of innovation systems with the interaction between the four main components of the innovation potential, namely the potential of learning, the potential of knowledge generation, the potential of knowledge spread and the potential of demand for knowledge.

The author designs a two-dimensional matrix of "quality of life index - the index of the knowledge economy" for Ukraine's regions and makes an integral distribution the levels people's well being and that of the development of the knowledge resource. It is established that the main cluster of the regions by the combination of the two indices, is within the limits of "medium" to "low" indicating a relationship between the knowledge resources and regional quality of life.

The proposed methodological approaches make it possible to carry out an in-depth and detailed analysis of the results of analytical calculations and estimate the real picture of the strengths and weaknesses in the formation of the knowledge resource in each region, and to identify the factors contributing to the quality of life of the whole country's population and its individual groups.

The author provides various proposals as to the role of state and regional authorities in shaping the regional innovation systems. It is proved that, among the priorities reflecting a new phase of spatial development and the role of regions in the development of their territories through innovative reforms, should be the acceleration of the formation of a regional innovation system aimed at enhancing local business activities. That should become one of the main guidelines of the state policy of the involvement of regional scientific, technological and innovative capacities to implement the strategic objectives of the country's competitiveness.

Key words: *knowledge based economy, knowledge resources, regional development, regional innovation systems, strategy of innovation based development.*

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THE INNOVATIVE POTENTIAL OF THE PROCESSING ENTERPRISES: ESTIMATE AND REALIZATION

The article's aim is to reveal the essence and structure of the innovative potential of the enterprises of processing and tobacco industries, analyze its components and justify the advisability and necessity of complementing it with a new component, namely a system to ensure the quality and environmental safety of food products. During the research, a series of tasks have been solved, which are related to improving the methodology of the evaluation innovative potential, in particular, the sequence, choice and number of observation objects and periods, generation of the observation matrix and average values, synthesis of individual and total estimates, of the potential of individual components and their weight values and integral estimates for individual enterprise. Based on the use statistical reports for the investigated years, a system of partial indicators was compiled and innovative potential was calculated both for individual components and the integral values for four processing enterprises in Bukovyna region. In order to overcome the misbalance and shift over a higher level of functioning based on the systematization of functional strategies and initial possibilities for the development of the enterprises (technical-and technological condition of the production, own investment possibilities and the ability of attracting outside investments), the authors justify individual models for basic strategies of the expansion of the innovative potential on each of them. Their practical implementation would contribute to overcoming the existing

misbalance and expanding the innovative potential of the processing enterprises and would raise the multi-dimensional effectiveness and economic efficiency.

Key words: *innovative potential, components of the innovative potential, methodology to calculate the innovative potential.*

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COMPREHENSIVE HOUSING CONSTRUCTION IN THE VILLAGE AS A COMPONENT OF RURAL DEVELOPMENT

Considering the current misbalance between the volumes of housing construction in urban and rural settlements, the author justifies the importance of the construction of modern comfortable houses in rural areas as a driver of progressive rural development. Investigation of the experience of the Republic of Uzbekistan in the realization of a state program of housing construction for rural dwellers based on model projects has shown that, during 2009–2012, in rural areas, 23.6 ths new houses were built (with average cost of one house approximating 50 ths USD). The use of local building materials, cheap labor, and the government preferences have made it possible to lower the cost of houses for the rural dwellers: 1 sq. m costs half of the urban value. The project is a timely one, because of the considerable increase in rural population. In Ukraine, in recent years, the indicator of per capita housing construction has been lower than in Uzbekistan, being the new housing construction concentrated mainly in towns and suburbs. The problem of access to dwelling remains very acute for the rural dwellers because of their low total incomes and expensive credits (the interest rate on mortgage credits, as of early 2013 was 17.6%), while the underfunded government program supporting individual housing construction in rural areas called "Vlasnyi dim" (Own house) does not satisfy the demands of the rural dwellers. It is evident that, in Ukraine, the best period for encouraging large scale housing construction in rural areas has been already lost. The rural areas are now characterized by a rapid decrease of population, and considerable labor migration with gradual settlement of the migrants in urban areas.

Key words: *housing construction, rural population, socio-economic development, employment, "Vlasnyi dim" program, internal urbanization of rural areas.*

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FORECASTING AND ASSESSMENT OF GREENHOUSE GAS EMISSIONS WITH "TIMES-UKRAINE" MODEL

The article presents calculations of the projected GHG emissions in Ukraine until 2020 and further until 2050, based on the optimization model of the energy system "TIMES-Ukraine". Results show that GHG emissions in 2020 will not exceed half of the 1990 value, which would correspond to Ukraine's commitments under the second period of Kyoto Protocol. Considering Ukraine's possible target not to exceed in 2050 50% of the 1990 emission level, in case of the low rates of economic development with certain elements of the energy balance optimization, a 15% (according to UN forecasts) decrease in country's population, insignificant increase in the housing stock and observance of the commitments to the European Energy Community, such an objective could be attained without considerable efforts.

However, low GDP growth rates and population decrease cannot be Ukraine's national goals so one may expect a more rapid socio-economic development. In this context, achieving the aforementioned target by 2050 would require the effective economic instruments' implementation to encourage technological modernization and introduction of the low-carbon economy model of Ukraine. Under different scenarios of economic growth various guidelines to reduce GHG emissions are presented. The latter are based on encouraging energy efficiency and energy saving, the use of renewable energy sources, raising the national energy and ecological security and carrying out restructuring measures in order to increase the share of economic activities with high value added and low energy intensity. Besides, the article calls for the introduction of a flexible system of GHG emissions taxation and domestic trade in emission permits.

Key words: *energy systems of Ukraine, TIMES-Ukraine model, greenhouse gas emissions, energy supply, modeling, projection.*

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IMPACT OF EXCHANGE RATE AND IMPORTS ON THE EXPORT STRUCTURE DYNAMICS IN UKRAINE

The article examines the sources of structural changes in the export sector and industrial production in Ukraine. The composition of exports in favor of commodities has been relatively stable over the recent decade serving as a factor facilitating the growth of primary exports at the expense of manufactured exports, as suggested by the income and import elasticity of exports and production sectors. In order to assess robustness of the results, an empirical estimation is conducted with the use of alternative statistical methods, such as the two-stage least-

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squares (2SLS), vector autoregression (VAR), and the Kalman filter. The main finding is that devaluation of the hryvnia does not contribute to the growth of manufactured exports, which is highly dependent upon the imports of capital goods. The exports of non-traditional commodities with higher value-added have higher import sensitivity but lower real exchange rate elasticity. The author establishes an asymmetrical impact of exchange rate dynamics on the industrial production and exports in the primary and technological branches of industry.

Key words: *export structure, industrial production, exchange rate, import elasticity, price elasticity.*

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IT EMPLOYMENT AS AN INNOVATIVE SEGMENT OF THE LABOR MARKET

The author analyzes the impact of the information and communication technologies (ICT) on the labor market, and the formation of IT employment, which is considered as a factor favoring the increase in economic competitiveness. The article investigates the impact of the global innovation based economic development on the change in the forms of employment, which makes it possible to outline the prospective innovation oriented guidelines of qualitative progress on the domestic labor market.

The author estimates the level of IT employment in Ukraine, which makes it possible to compare it with corresponding indicators in the OECD countries and assess the possibilities of innovation based development for our country in the global economic environment. The article shows various peculiarities and socio-demographic characteristics of IT employment in Ukraine. The author defines the segment of non-standard employment, which includes people either employed part time working hours or having casual temporary jobs or working remotely etc. Such employed are considered an underused intellectual potential, who could become a core of the innovation based development of Ukraine's economy.

When defining the main development priorities of the labor market as the necessary organizational and managerial tasks, the leading countries of the world mention the issue of favoring the ICT development and expansion, on that basis, of the IT employment. Attaining such objectives calls for a transformation of the educational sector, which is the reason why the present article focuses on the experience of different countries in supporting IT education and IT employment.

Key words: *labor market, non-standard employment, IT employment.*