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MODELLING OF INTERNATIONAL BUSINESS PROCESSES IN UKRAINE

In a permanent global crisis state the key factor is building a qualitatively new economic model that would eliminate the disparity of national economic development, balance the regulatory mechanisms of international business, eliminate disparities in foreign economic activities and strengthen the international competitive position in the global market.

To date, it is very important to create a rational business model for our state and to determine the factors that affect the intensification of international business processes in Ukraine.

The purpose of the research is to develop a rational model of international business processes in Ukraine, due to the current state of the business environment and taking into account the factors that significantly affect the conditions.

In the rating Doing Business 2013Ukraine has not only improved its position in 2013 by 15 points (up to 137 place from 185 countries), but also joined the list of 23 countries – the greatest reformers of doing business in 2011-2012, according to the paper.

In the research we created a model of business processes in Ukraine. Due to this we chose the following indicators for a period of 2004-2013:

- number of enterprises engaged in foreign economic activities, X_1;
- number of entrepreneurs engaged in foreign economic activities, X_2;
- relative share of entrepreneurs which made export-import operations, %, X_3;
- new technologies introduced, X_4;
- developed new types of production, X_5;
- number of enterprises launched national production overseas, Y_1;
- relative share of export-import operations in GDP, %, Y_2.

To check the input data for normality of distribution in the course of modelling we used basic criteria: the Kolmogorov-Smirnov/Lilifor, Shapiro-Wilkie, D'Ahostino ones. The next step was to investigate the presence of multicollinearity, the existence of which leads to shifting estimates of the model parameters, making it impossible to determine the correct connection of the dependent variable with independent, for that we used Pearson's correlation coefficient.

The next step was estimating the parameters through the quantile regression for dependent variable Y_1 and Y_2. Therefore we were enabled to create two models, the results of which are described here.

The first model is a model of influence of selected factors on the number of enterprises that have implemented national products outside Ukraine that can serve to measure the impact of international business – processes of Ukraine.

The second model is a model of dependence of relative share of carried out R&D works in Ukrainian GDP upon the factors selected at the first model.

Therefore, basing on the obtained model №1, we can give the following interpretations:

– relative rate of change in the number of companies that have implemented national products outside Ukraine is lower than the relative rate of change of selected factors;

– if the number of organizations engaged in foreign trade activities (X_1) increases by 1%, the number of companies implementing national products outside Ukraine is to rise by about 4% providing all other factors are constant;

– if the share of firms which make export and import transactions (X_3) increases by 1%, the number of companies implementing national products outside Ukraine is to increase by 0,136% providing all other factors are constant;

– if the number of introduced new technologies (X_4) increases by 1%, the number of companies implementing national products outside Ukraine to increase by 0.3% for all other factors held constant;

– between the number of companies that have implemented national products outside Ukraine on the one hand and between the number of entrepreneurs engaged in

foreign trade activities (X_2), and the development of manufacturing of new products (X_5) on the other, there is feedback:

– if the number of entrepreneurs (X_2) increases by 1%, the number of companies implementing national products outside Ukraine will decrease about 3.7% providing all other factors are constant;

– if the development of manufacturing of new products (X_5) increases by 1%, the number of companies implementing national products outside Ukraine will reduce to about 0.013% providing all other factors are constant.

Based on the results of modelling №2 we can give the following interpretations:

– relative rate of change in the proportion of the share of export-import operations in GDP is lower than the relative rate of change of selected factors;

– the most significant impact on the share of the volume of export-import operations in GDP is made by the organizations carrying out research and development (with an increase in the number of such organizations by 1%, the proportion of completed scientific and technical work in the GDP will grow by 5.5 % providing all other factors are constant);

– the least significant effect on the studied parameters of development of a new products (if the development of new products (X_5) increases by 1%, the proportion of completed scientific and technical works in GDP will decrease by around 0.01% providing all other factors are constant).

Thus according to the study it should be stressed out that a necessary condition of international business intensification in our country is primarily the introduction of new technologies, which is a prerequisite for strengthening the international competitiveness of national products.

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