FEATURES OF CONDUCTING THE DECOUPLING-ANALYSIS

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At the present stage of development the issues of economic growth for any country becomes important. However, intensive economic growth leads to an exacerbation of a number of problems such as unbalanced exploitation of natural resources, decrease of quality of environment, increase of the costs of natural balance reproduction and so on. Therefore, in view of these problems, it is extremely important to disclose the essence of decoupling effect as an economic phenomenon that reflects the ability of an economy to grow without increasing pressure on the environment.

The phenomenon of the gap between economic growth and the reduction of anthropogenic pressure on the environment called "decoupling". Definition of "decoupling" reveals the phenomenon of "polar" development (opposite development direction) of two or more objects of any system. In ecological and economic sphere decoupling characterizes differentiation (dependence leveling) between economic growth and pressure on the environment. Decoupling phenomenon appears in reduced growth rates for pressure on the environment compared to the growth rates of economic development over the same period. That means that growth will be achieved at the expense of the amounts of natural resources of the ecosystem with which anthropogenic pressure does not exceed its assimilative capacity [2].

The level and dynamics of macroeconomic indicators of socio-economic subsystem has a close relationship with the level and rate of assimilative potential consumption for environmental subsystem of the national economy. This relationship is revealed by decoupling factor indicator. In fact, this figure shows the ratio between the growth in mass of pollutions and gross domestic product (GDP) (Formula 1) [1]:

$$F = 1 - \frac{EP_e}{DF_e} / \frac{EP_b}{DF_b} \quad (1)$$

Where DF_e, DF_b – indicators of economic growth (are determined by macro-indicators of GDP, National Income etc.) in the final and base year respectively, UAH; EP_e, EP_e – anthropogenic pressure on environment (determined by the harmful pollution indicators), physical units.

Simple mathematical manipulations let represent formula (1) as follows:

$$F = 1 - \frac{EP_e}{EP_b} / \frac{DF_e}{DF_b} \quad (2)$$

Where $\frac{DF_e}{DF_b}$ and $\frac{EP_e}{EP_b}$ – are the indicators of growth rate of economic development and pressure on the environment respectively, coefficient.

When F > 0 and this index in its dynamics increases the decoupling phenomenon is observed - anthropogenic pressure on the environment is reduced with economic growth. When F < 0 and decreases in dynamics - economic growth leads to significant pressure on the environment. In the case of F = 0, a definite conclusion cannot be done: if the rate of economic growth and pressures are of 100% anthropogenic pressure on the environment will not grow and not decrease over time, in case of equity growth pressures and economic growth (over 100%), pressure on the environment will be the growing, if the decline rates are the same for economic development and anthropogenic pressures (less than 100%) pressure on the environment decrease over time.

So decoupling reflects the ability of the state economy to accrete the economic power without the increased pressure on the environment. In order to identify decoupling it is needed to fix the relationship between indicators of economic driving forces (mostly common GDP), which is traditionally considered to measure quality of life, and an indicator of pressure on the environment. The issue, therefore, is determining the rate of growth of macroeconomic indicators relative to the amount of pollutants emissions that may signal according to national governments about the need to reduce the environmental impact of the creation of each additional unit of material well-being of citizens.

There are five main objectives of the decoupling strategy: reduction of pollution factors action, production efficiency increase, consumption efficiency improvement, changes in the share of costs in favor of the least resource demanding, improving quality of life level [1].

Given the mentioned above, it can be stated that a key task of the Ukrainian economy development is to create a style of management, which should provide savings of natural resources and reduce the anthropogenic impact on the environment at high rates of economic development.

References

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