

## The impact of current economic structure on the environment in Vietnam and China

Topic: (2.2) Environmental IO Modelling (2)

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In Vietnam, the strategy development is a priority for industrial and services sectors. Currently, the idea of economic restructuring is to promote the industrial sectors service sectors. So the rate of investment in these areas is increasing. However, the rate of value added in its output of these sectors is decreasing significantly. This means that the growth economy in Vietnam is ineffective. Moreover, the pollution fast is becoming an issue in booming Vietnam. Thus, Vietnam needs to review current economic structure, and then give some change of it. In addition, Vietnam and China have close relations both economics and politics due to the geographical location as well as the history of two countries. During the Vietnam development, the relationship between Vietnam and China is always the concern of policy makers. In general, the change of China economy has a certain impact on the Vietnam economy. Therefore, the economic comparison between Vietnam and China is necessary for policy decision-making in Vietnam.

The research question:

- The current economic structure of Vietnam? Compared with the economic structure of China.
- With the current economic structure, the effect of the Vietnam economy to energy and the environment? Compared with China economy.
- How Vietnam restructure the economy in order towards to improve the efficiency as well as environmental protection?

The method used:

The input-output model was developed by W. Leontief (1936, 1941). The input-output table is a tool to give a comprehensive picture of a country's economy. It reflects the inter-sectoral / inter-regional relationship in production as well as the use of products for final consumption, gross capital formation, exports of the whole economy. Furthermore, I/O table also show output required of a sector/region for a unit output of another sector/region and vice-versa. Therefore, Leontief model allows us to identify the spread of economics, import, energy, and environment by sector. Moreover, the model allows us to estimate the spread of final demand to the production, income, imports, energy and the environment. In addition, the Leontief model focus on the "driving demand" (consumption) while the Ghosh model (1958) focus on the "driving supply" (value added). Therefore, we can estimate the sensitivity of energy as well as emission per one unit increase in value added through Ghosh model.

The data used:

- The study based on data from the input-output table in 2012 by the General Statistics Office (GSO) that is the newest input-output table in Vietnam. This I/O table has distributed FISIM and exchange in USD.
- The input " output table of China in 2012 by National Bureau of Statistics of China (NBSC) that exchange in USD.
- CO2 emissions data is publicized by Input-Output World Database (WIOD) and the Ministry of Natural Resources and Environment Vietnam.

The novelty of the research:

In term of science:

This study will analysis economic structure based on the sectoral linkage structure. In addition, this study will estimate the impact of economics on the environment based on these structures.

In term of practical research:

This research will give a picture of the current economic structure of Vietnam and compared with

China. Besides, the study will indicate the effect of economics on the environment of the Vietnam, compared with China. Therefore, this study will give recommendations for economic restructuring in Vietnam.