



Zabul University
graduate education management,
School of Agriculture,
Department of Agricultural Economics,
Dissertation for obtaining a specialized doctorate degree in the field of agricultural economics

**Investigating factors affecting the quality of the environment in the
national economy and the provinces of the country**

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Summer 1401

Abstract

One of the influential factors in the growth and development of societies is the environment. Environmental challenges created in the process of economic growth and development have become one of the most important concerns of policymakers. Today, in addition to the policies and actions within their own countries, countries follow the regulation of pollution in the international sphere. Therefore, the investigation of factors affecting growth and pollution can be important because it may be the basis of environmental policymaking at the national and international levels. For this purpose, in this article, by expanding the STIRPAT model, the effective factors on carbon dioxide emissions have been investigated by using the information of the country's provinces in the form of panel data and with Eviews and Stata software. The results of the comparison panel model show that energy consumption, per capita income and Gini coefficient and population growth as indicators of income distribution have had a positive and significant effect on carbon dioxide emissions. Also, the short-term and long-term relationship of factors affecting the quality of the environment has been investigated based on time series data based on the ARDL method. The results of the estimation of the short-term equation showed that in the short term of energy consumption, the population of the previous period and the Gini coefficient of the previous periods had a positive and significant effect on carbon dioxide emissions. Also, per capita income has had a negative effect on the amount of carbon dioxide emissions. Based on the long-term estimate, population, energy consumption, and the Gini coefficient have had a positive and significant effect on carbon dioxide emissions. Also, the increase in per capita income has a negative effect on the amount of carbon dioxide emissions in the long term.

Keywords

Energy consumption, Gini coefficient, carbon dioxide, environment, panel data