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Investigating the Impact of Privatization on the Ecological Intensity of Well-Being in Iran

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Abstract

Research conducted on privatization in Iran has mainly focused on the dimensions of economic growth, prosperity, and improvement of economic activities, neglecting other dimensions, especially the positive and negative impacts of privatization on the environment. Considering the significant role of privatization in ecological intensity, this study aims to investigate the impact of privatization on the ecological intensity of well-being in Iran during the time period 1991-2022 through a smooth transition regression. The results of the research confirm a positive and significant impact of privatization on the ecological intensity of well-being in the form of a two-regime structure with a threshold value of 11.58. The intensity of this positive effect increases upon crossing the threshold and entering the second regime. The speed of transfer of the dependent variable is 9.17, and the transition from regime 1 to regime 2 will occur relatively quickly. In fact, privatization not only does not improve the ecological intensity of well-being index but also leads to its increase, causing further environmental degradation.

Keywords: Ecological intensity of well-Being, ecological footprint, privatization, smooth transition regression model.

JEL Classification: L33, Q57, I31.

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1. Introduction

Environmental problems have caused experts in this field to seek new scientific solutions to protect human societies from the dangers and damages caused by environmental changes; Because in the not-so-distant future, the negative consequences of developmentalist policies will make the society face severe and irreparable crises. This research aims to reduce environmental degradation by applying concepts such as: privatization, ecological footprint and ecological intensity of well being.

2. Theoretical Framework

The ecological footprint index is one of the indices that have been discussed at the global level in recent years and has been used as a measure to show the state of ecological sustainability. For the ecological footprint index, the issue of tolerance threshold is very important. Threshold of tolerance is the maximum amount of population that an area can support without reducing its ability to support similar species in the future, in other words, how much nature is able to tolerate human pressure. Ecological intensity of well being is: per capita pressure that every human being imposes on the environment since birth, so it can be said that humans and human societies as a whole from the moment of birth and according to the number of years they live, in every period of life They have different needs that how to provide them has a decisive and significant role in how they interact with the environment and especially the index of ecological intensity to live. Privatization is the transfer of a certain part of the public or government sector shares to the private sector, which leads to a reduction in government expenditures, an increase in government revenues, and ultimately a reduction in the size of the government. In today's world, the politicians of different countries have implemented the privatization process by preparing and compiling standards, considering the existing conditions in each country; Because according to governments, the main way to achieve high economic growth is the implementation of privatization and limited government intervention in the economy.

3. Methodology

In this study, the smooth transition regression model will be used to investigate the effect of privatization on the ecological intensity of well-being in Iran. In this model, not all processes necessarily have drastic changes around the threshold point and changes in parameters can also take place slowly. In these models, transitions between different regimes are determined by logistic function or exponential function. The estimation steps are as follows: first, the test of linearity versus non-linearity is performed, and in case of rejecting the null hypothesis that the relationship between the variables is linear, the number of transfer functions should be selected to fully specify the existing non-linear behavior between the variables. The main advantage

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of this approach is that it has the ability to specify the number of times and the time of regime change, and it also shows the speed of transition from one regime to another. The model used in this research will be as follows:

(1) $yt = \phi' \omega t + (\theta' \omega t). G(\gamma, c, st) + ut$

In the above equation, the representative of the dependent variable, ω_t represents the vector of the independent variables and its intermittent values including the intermittent values of the dependent variable. ϕ' represents the influence of independent variables, or in other words, the vector of coefficients of the linear part, θ' represents the vector of coefficients of the linear part. ut represents the random error. The G function is a logistic function, continuous and bounded between zero and one, which represents a smooth transition between regimes, which has the following form:

(2) $G(\gamma, c, st) = (1 + \exp\{-\gamma \prod_{-(k=1)} (st-ck)\}^{-1}, \gamma > 0)$

In this function, s represents the transition variable, γ is the transition speed parameter, and c represents the threshold limit or the place where the regime change occurs. The parameter, k also shows the number of times the regime changes.

4. Discussion

The optimal model with two regimes and the first break threshold variable is the ecological intensity variable, which shows that this variable is more optimal than other variables. This model has two linear and non-linear parts, and the coefficients of the variables have been calculated significantly. The slope parameter, which represents the speed of transition from one regime to another, is estimated as 9.17, and it can be said that the transition from regime 1 to regime 2 will happen relatively quickly. The results of estimating the threshold value of the dependent variable show that considering that the transfer coefficient is equal to 11.58, it can be said that the threshold and optimal value of EIWB(-1) variable for transition from regime 1 to regime 2 is equal to 11.58. In other words, if the variable of the first interval of the variable of ecological intensity to live is less than the value of 11.58, the behavior of the variables will be according to the first regime, and if it exceeds this value, it will be according to the second regime.

5. Conclusion and Suggestions

The results of this research showed that privatization has a significant effect on the ecological intensity of well-being, as a result it is suggested that since the increase in privatization causes new environmental problems and challenges facing it, and considering that Iran is a country that has resources It is rich in oil and gas and generally has many natural resources, to exploit such resources, it needs up-to-date and advanced technologies. Investing to achieve environmentally friendly technologies can be done by importing these technologies, or in other words, by producing and localizing technology.

6. Ethical Considerations

6.1. Compliance with ethical guidelines

Any violation of the copying of this research will be prosecuted.

6.2. Funding

This research does not have the financial support of any organization or person.

6.3. Authors' Contribution

The authors have contributed equally in writing the paper.

6.4. Conflict of Interest

The authors declare that there is no conflict of interest in this research.

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