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The Effect of Financial Development Regimes on Energy Intensity in Iran: Markov-Switching Approach

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EXTENDED ABSTRACT

INTRODUCTION

Energy is used as an input in the production, distribution and consumption of all goods and services. Therefore, it has a wide importance in the supply chain both from the perspective of the final product for consumers and from the perspective of production input for producers (Adom et al, 2019).This importance has caused the excessive use of energy to achieve higher economic growth and development, and has resulted in the destruction of the environment and the loss of natural resources. Indeed, although energy is necessary for economic growth and development, it can be said that it is necessary to worry about its lack and pay attention to environmental issues. Indeed, the limitation and depletion of energy resources has made the management of energy consumption one of the most important issues in the global economy (Harati et al, 2017). Therefore, studying the factors affecting efficiency in energy consumption and reducing energy intensity is one of the essential prerequisites for efficient management of energy consumption and reduction of environmental pollutants. Among various factors, the impact of financial development on energy intensity is one of the important issues that has been raised and shown its importance in the last few years. Therefore, this can have optimal policies in energy consumption and environmental efficiency.Therefore, the present research investigate the impact of financial development on energy intensity in Iran during the period of 1350-1397 under regime conditions.

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METHODOLOGY

To investigate the impact of financial development on energy intensity in Iran under regime conditions, vector auto regression model based on error correction (MS-VECM) has been used. The statistical data of financial development variables were collected from the WDI(2020) and energy consumption intensity from the energy balance sheet, as well as the statistics of economic growth variables, urbanization, industrialization and commercial openness from the WDI (2020).

FINDINGS

According to the estimation model, the impact of financial development on energy intensity has been analyzed in three different regimes. According to the results, financial development in zero regimes has a negative and significant effect on energy intensity. In this regime, improving financial development has reduced energy intensity. In regime one, the impact of financial development on energy intensity is positive and significant, and the improvement of financial development environment has increased energy intensity. In regime two, financial development has a negative effect on energy intensity, but its effect coefficient is different compared to regime zero. Therefore, the results showed that energy intensity is affected by different regimes of financial development.

CONCLUSION

According to the results of the study, it can be said that financial development has an important and significant effect on energy consumption and intensity . When financial development is around its stable state and has little fluctuation, the impact of financial development on energy intensity is negative .It is important to pay attention to this point in Iran, where energy consumption and intensity are not in a good condition compared to other countries .Therefore, the results show that economic policy makers, in addition to paying attention to financial development, should also focus on the volatility and changeability of this variable and try to implement policies that do not cause large fluctuations in the financial markets .A momentary increase or decrease in credits, a sudden change in debts or a sudden change in bank assets can cause financial development to be in a single regime and have a positive effect on energy intensity .Therefore, the policy of paying attention to financial market variables and financial development indicators can improve energy intensity and increase energy efficiency.

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