Chapter 14
Can Renewable Energy Investments Be a Solution to the Energy-Sourced High Inflation Problem?

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ABSTRACT

The aim of this study is to examine the relationship between renewable energy and inflation. Within this framework, Turkey is taken into consideration. In this context, the data regarding inflation rate and renewable energy usage for the years between 1990 and 2020 is examined. This data is obtained from the website of the World Bank. Engle Granger cointegration analysis is considered to examine the relationship between these factors. The findings demonstrate that there is a long-term relationship between the variables. In other words, it is understood that renewable energy usage affects inflation for Turkey in the long term. Therefore, it would be appropriate for countries to prioritize renewable energy investments. In this way, countries will be able to produce their own energy, and their dependence on foreign energy will decrease. Thus, they will not be affected much by the increases in energy prices. In this context, investments should be made primarily in renewable energy technologies.

DOI: 10.4018/978-1-6684-5876-1.ch014

INTRODUCTION

Inflation causes the uncertainty in the country's economy to rise. This situation worries investors. The reason for this is that it is difficult to predict the prices of goods in the market for the future because of inflation. This leads to a decrease in investments (Mukhtarov et al., 2022). As a result, the stability of the country's economy deteriorates. Thus, the problem in the country's economy grows even more. In summary, the inflation problem needs to be solved. One of the most important causes of high inflation problem is energy. In other words, due to the increase in energy prices, the prices of other goods in the country also increase (Zhang et al., 2022). The reason for this is that energy, which is one of the most important raw materials, is effective in the formation of the price of each commodity.

Therefore, it is also important for countries to have their own energy resources and to manage the high inflation problem. This situation is even more difficult for countries that do not have energy resources such as oil and natural gas within their borders (Dong et al., 2022). Since these countries are dependent on foreign energy, they cannot interfere with the increase in energy prices. In this context, the use of renewable energy is important for these countries. Since natural resources such as sun and wind are taken into consideration in these types of energy, renewable energies mean the country's own energy (Dinçer et al., 2022). Therefore, renewable energy resources can be increased to effectively combat the high inflation problem.

Turkey is also a country dependent on foreign energy in terms of energy. In parallel, Turkey has been struggling with the problem of high inflation for a long time. In this study, the relationship between renewable energy and inflation is examined. Within this framework, Turkey is taken into consideration. In this context, the data regarding inflation rate and renewable energy usage for the years between 1990 and 2020 is examined. This data is obtained from the website of World Bank. Engle Granger cointegration analysis is considered to examine the relationship between these factors.

Theoretical Background

The energy problem is one of the biggest problems of our age. Various reasons can be mentioned that cause this problem, but the main reason is the increasing energy need in parallel with the increasing world population. After the industrial revolution, global production, consumption, and human population are increasing rapidly (Stearns, 2020). Considering that energy is a basic need for people, the increasing energy demand must be met. Every energy produced in parallel with the increasing energy demand has various costs. In addition to material costs, environmental costs can also be mentioned. One of them is environmental pollution. Most of the global energy demand is provided by fossil fuels. Since fossil fuels are carbon-based fuels, they are one of the main causes of environmental pollution, especially air pollution. Accordingly, energy production, which is increased at the same rate to meet the increasing energy demand, pollutes the environment more if fossil fuels are used. Fossil fuels are natural energy sources containing hydrocarbons and high levels of carbon. Natural gas, oil and coal are prime examples of fossil fuels (Kalair, et al., 2021). Fossil fuels, which are widely used by industrial environments, are basically formed by the dissolution of dying living organisms in an oxygen-free environment for millions of years. The process of generating electricity in power plants that produce energy using fossil fuels is simply based on the combustion process. The steam released by the combustion of fossil fuels is used to turn turbines. Electricity is generated by the rotation of the turbines.