

ABSTRACT

Bitcoin is an alternative payment tool that is supported by a technological innovation called Blockchain. In each transaction, miners are required to validate the transaction. The problem arises because of the large energy usage in each validation process. Long-term projection for cryptocurrency activities is predicted to lead to an energy consumption boom and environmental change. This study aims to empirically analyze the short and long term effect of Bitcoin mining projected by hash rate and total transactions.

The data used is secondary data including global primary energy consumption, Bitcoin hash rate, and total Bitcoin transactions. Data for each variable is taken from the 2019-2021 period. Data analysis was carried out using Autoregressive Distributed Lag (ARDL) method with ARDL (4,2,1) model.

In the short term, the hash rate and total transactions have a positive but insignificant effect on global primary energy consumption. Meanwhile, in the long term, the hash rate has a positive but insignificant effect and the total transactions have an insignificant negative effect on global primary energy consumption.

Keywords: Autoregressive Distributed Lag (ARDL), Bitcoin Mining, Primary Energy Consumption.