Extended Abstract

Purpose

The economic puzzle of the relationship between the abundance of natural resources and economic growth and its influence on income distribution is discussed from several aspects; On the one hand, the creation of rent-seeking opportunities and the size of the shadow economy to take over the rent from the resources severely reduces economic efficiency and causes inequality in the distribution of income, and on the other hand, the optimal use of natural resource income for education and health. Human capital leads to fair distribution of incomes. According to economic theories, the abundance of natural resources should promote economic and social welfare for societies, however, many empirical studies have shown that natural wealth is not always enough to achieve prosperity in countries. So that in many resource-rich countries, negative results such as reduced economic growth, poverty and income inequality have increased. Therefore, the curse or blessing of natural resources is also related to the management of income from the exploitation of natural resources and not only to having or not having resources. Several resource-rich countries around the world have experienced a "paradox of abundance" due to widespread mismanagement, corruption, and conflict. Unequal distribution of income is also one of the consequences of the paradox of abundance, although the paradox of abundance focuses more on the effect of the abundance of resources on economic growth, but the same forces that cause the reduction of economic growth are the factors that create inequality in distribution They are also income. The purpose of this research is to investigate the long-term and short-term effects, as well as to estimate the direct and indirect effects (spatial spillovers) of the spatial proximity of the human development index and the shadow economy on the relationship between resource rent and income distribution in the form of spatial econometrics using distance-weighted proximity matrix in Among 75 countries in 4 income groups in the period (1990-2019).

Methodology

The method examined in this study is spatial econometrics in which the data are in the form of spatial panel data. The reason for using spatial econometrics in panel data compared to cross-sectional and time series data is the occurrence of less collinearity in the variables, the achievement of more degrees of freedom and finally more efficiency in estimations and the possibility of modeling fixed and random effects which cannot be checked in other data. Spatial weight matrix is used to consider spatial overflows (Effectiveness and influence). The resulting matrix, which is the distance proximity matrix, is a symmetric matrix, and the main diagonal elements of this matrix are always zero, and the non-diagonal elements show the closeness of the relationship between the two countries, which can be 0 or 1. In the current research, the spatial distance criterion is used to determine the location and form the spatial weight matrix. Now, in order to estimate the main problem of the research, to estimate the short-term and long-term effects of the spatial proximity of the human development index and the shadow economy and natural resources rent on the income distribution among 75 countries in 4 income groups, by adding the dependent variable of the break and its spatial effects $(\mu w_{it} IN_{it-1})$،(τIN_{it-1}) are presented in the form of regression model **:**

$$IN_{it} = \tau IN_{it-1} + \rho_1 w_{ij} IN_{it-1} + \beta_1 NR_{it} + \beta_2 SE_{it} + \beta_3 HDI_{it} + w_{ij}\theta_1 NR_{it} + w_{ij}\theta_2 SE_{it} + w_{ij}\theta_3 HDI_{it} + \alpha + \gamma_t t + \varepsilon_{it}$$

$$\varepsilon \sim N\left(0 ، \sigma^2 I_N\right)$$

IN_{it}: Income distribution (Gini coefficient) in different countries over time. (i=1…….75) and t=1990…….2021)).

τIN_{it-1}: Income distribution (Gini coefficient) with time lag.

$w_{ij} IN_{it-1}$: spillover effects of income distribution in period t-1.

$w_{ij} NR_{it}$:Spatial effects of natural resource rent in different countries over time.

$w_{ij} SE_{it}$: Spatial effects of the shadow economy in different countries over time.

$w_{ij} HDI_{it}$: variable spillover effects, human development index.

ε_{it}: Disturbance term of the spatial dynamic camera panel model (effects of the error component of different countries over time).
($\theta_1 \ldots \ldots \theta_3$):Spatial autocorrelation coefficients.
Coefficients of explanatory variables.($\beta_1 \ldots \ldots \beta_3$):
The meaning of direct effects is the partial derivative of the dependent variable of each country (i) with respect to the explanatory variable of the same country (i). The effect of the internal political situation of a particular country is due to a change of one unit in the explanatory variable of the same country. Indirect effects: which is known as the spatial spillover effect, that is, the average changes of the independent variables of neighboring countries (foreign policies) on the dependent variable of the country (i).
Using Moran's test, the spatial model was confirmed and the spatial dynamic pattern (spregxt) was estimated.

Finding

The results the decreasing trend of direct and indirect effects of resource rent in the long term due to the increase in per capita income in countries in 4 income groups; As high- and middle-income countries manage and control the shadow economy and invest in the education and health of human resources, the equal distribution of income within the country has improved the distribution of income in neighboring countries as well. In low- and middle-income countries, the negative impact of the shadow economy on income distribution has become more widespread over time.

Conculusion

The results show that as the per capita income increases and the country is developed, the rent of natural resources has a greater effect on increasing the distribution of income in the same country and even in other regions. In these countries, due to the existence of laws in creating rent-seeking opportunities, income distribution is more efficient. In countries HIC&UMIC, it has become smaller in the long term, which reduces inequality due to the greater efficiency of the government and their ability to manage and monitor the economy more. In the long run, HIC countries are, the more the impact of their internal policies in the field of health and education on the distribution of income in the neighboring countries is greater.