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The effect of government size on the inequality of income distribution in the provinces of Iran

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EXTENDED ABSTRACT

INTRODUCTION:

Income inequality between the provinces of Iran is an important issue for politicians, economists and geographers, and it causes subsequent imbalances in population settlement, investment, social and political problems, and environmental crises. Theoretical studies show that the relationship between the redistribution of government spending and regional income inequality depends on some political economy factors such as the motivation for rent-seeking activities and political connections; Therefore, in explaining the relationship between the size of the provincial government and the inequality of income distribution, one cannot rely on a specific theory or a group of empirical studies in the direction of macroeconomic policies, and the general result of the issue is ambiguous, and it seems that the best method is to respond to these theoretical and empirical contradictions. , is an empirical study of the relationship between income distribution and the size of the provincial government. This research aims to investigate the effect of government size on the inequality of income distribution in the provinces of Iran with a retrospective approach (model and panel data) during the years 2006 to 2021. In this research, the Gini coefficient index has been used to measure the inequality of provincial income distribution, and the ratio of government expenditure to provincial GDP has been used to measure the size of the provincial government.

METHODOLOGY:

This research is practical in terms of the research objective, and in terms of the causal study method, it is based on regression methods. In the studied model, the effect of the size of the provincial government on the Gini coefficient of the province has been estimated using the data of the provinces of Iran between 2006 to 2021. To collect data in this research, library and secondary methods have been used. In collecting data related to the desired indicators, databases of Iran Statistics Center, Central Bank of Iran, Ministry of Economy and Finance and Globaldatalab database (human development index of provinces) have been used. The method of analysis is causal research using the regression method. According to the nature of the research data (panel data), pooling or panel data is first checked using Limer's F test. Then, by using Lin, Levin and Chu test, the stationarity of the research variables is investigated. Considering that the changes in income inequality are expected to be partially dependent on the values of the previous period, in this study, a dynamic approach, specifically the generalized method of moments (GMM) is used to analyze the data.

FINDINGS:

At the 95% confidence level, the Gini coefficient interval has no significant effect on the level of income inequality (Gini coefficient) in the provinces of Iran; However, the effect of this variable is negative and significant at the 90% confidence level; This means that with the increase of income inequality in the previous period, the income inequality of the provinces has decreased in the current period, which can be due to the sensitivity of the policymakers towards the increase in the level of inequality.

At the 95% confidence level, the size of the provincial government had a negative and significant effect on the level of income inequality of the provinces during the period under review. Considering the logarithmic nature of the research model, it can be interpreted that with a one percent increase in the size of the provincial government, the level of income inequality in Iran's provinces decreases by about 0.075 percent. In explaining the decrease in income inequality due to the increase in the size of the provincial government, it can be argued that with the increase in the size of the provincial government, it can be expected that the credits for supporting the low-income groups will also increase and lead to a decrease in income inequality. In confirming the negative effect of government spending on income inequality, we can refer to the results of Anderson et al. (2017).

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During the investigated period, the total consumer price index and the unemployment rate did not have a significant effect on the level of income inequality of the provinces, and they do not have the expected sign in terms of sign. In confirmation of the non-significance of the effect of unemployment, it has been reported in some previous studies, including Biranvand et al. (2019), that the unemployment rate does not have a significant effect on income inequality.

Although in this research, the negative coefficient of inflation on income inequality is not statistically significant; But in some previous studies, it has been reported that the inflation rate has a negative effect on income inequality. For example, we can refer to the studies of Biranvand et al. (2016) and Jorjorzadeh & Eghbali (2005).

At the 95% confidence level, the human development index has not had a significant effect on the level of income inequality (Gini coefficient) in the provinces of Iran; However, the effect of this variable is negative and significant at the 90% confidence level; This means that with the increase of the human development index, the income inequality of the provinces has decreased. Based on the estimated coefficients, a one percent increase in the human development index equal to 0.092 percent leads to a decrease in income inequality in the provinces of Iran. This research finding is consistent with the results of Pramana & Kirana (2023).

At the 95% confidence level, population density has a positive and significant effect on the level of income inequality in provinces. Based on the regression coefficient of this variable, it can be interpreted that with a one percent increase in the population density of the provinces, the level of income inequality in the provinces of Iran increases by about 0.015 percent. In this regard, Sylwester (2003) showed that areas with higher density can form more diverse and mobile communities, which has a favorable effect on their long-term income distribution; However, the research results do not support this issue. This issue can be explained as follows: due to the lack of sufficient facilities in Iran, with the increase in population density, the level of access of people in the society to educational, recreational, cultural, employment facilities, etc. will decrease, which will lead to an increase in income inequality.

At the 95% confidence level, the population dependency ratio has a positive and significant effect on the income inequality level of the provinces. Based on the regression coefficient of this variable, it can be interpreted that with a one percent increase in the population dependency ratio in the provinces, the level of income inequality in Iran's provinces increases by

about 0.223 percent, which indicates the strong effect of this variable in explaining income inequality.

At the 95% confidence level, the average size of the household has a positive and significant effect on the level of income inequality in the provinces. Based on the regression coefficient of this variable, it can be interpreted that with a one percent increase in the average size of households in the provinces, the level of income inequality in the provinces of Iran increases by about 0.122 percent. This finding of the research is consistent with the results of Mandegani et al. (2013).

At the 95% confidence level, the ratio of urbanization has had a negative and significant effect on the level of income inequality in the provinces. Based on the regression coefficient of this variable, it can be interpreted that with a one percent increase in the urbanization ratio of the provinces, the level of income inequality in the provinces of Iran decreases by about 0.122 percent. This research finding is consistent with the results of Wan et al.'s (2022) and Ali (2023).

At the 95% confidence level, GDP per capita has a negative and significant effect on the level of income inequality in provinces. Based on the regression coefficient of this variable, it can be interpreted that with a one percent increase in the per capita GDP of the provinces, the level of income inequality in the provinces of Iran decreases by about 0.067 percent. This research finding is compatible with the results of Ghaffary fard et al. (2021). In their research, they showed that with the increase in GDP, there is an improvement in income distribution.

CONCLUSION:

The results of this research showed that during the years 2006 to 2021, the size of the provincial government, the GDP per capita and the human development index (at a 90% confidence level) and the urbanization rate have a negative and significant effect on the Gini coefficient in the provinces of Iran; Also, during this period, population-related variables including population density, population dependency ratio, and average household size have had a positive and significant effect on the Gini coefficient.

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