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The Impact of Misery Index and Corruption Control on Income Inequality (With the Quantile Approach)

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Abstract

The increasing trend of income inequality, high inflation and unemployment, and social injustice in various societies, especially in developing countries including Iran, have made reducing income inequality and equitable income distribution one of the most important goals of governments and economic policymakers. To make the right policies and control income inequality, it is necessary to identify the determinants of the inequality. In this study, the effect of misery index and corruption control on income inequality has been examined in Iran using quantile approach during the period 1996-2019. The results of quantile regression model estimation show that corruption control, economic freedom index and exchange rate have a significant, positive effect on income inequality while the misery index has a positive effect at the lower quantiles and a significant, negative effect on income inequality at the other quantiles. Also, using the bootstrap method estimation, the results of quantile regression estimation have been confirmed.

Keyword: Income Inequality, Misery Index, Corruption Control, Quantile Regression, Economic Freedom.

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1. Introduction

One of the most challenging issues in the world today is the increase in inequality, and one of the obvious reasons for this inequality is access to economic resources, so that the world is facing serious income inequality. In fact, improper allocation of economic resources will lead to reduced economic growth, prevent domestic and foreign investment, and ultimately prevent GDP and increase income inequality. Unequal distribution stems more from economic injustice, unequal opportunities and social instability, as well as from political instability, political power inequality and financial crises. Thus, unequal distribution in any country harms its economy, society and political developments (Chiu and Li, 2019). Hence, in order to make the right decisions and policies and control income inequality, it is necessary to identify the factors that affect it. Inflation, unemployment and corruption control are among the factors influencing income distribution. Corruption increases income inequality across multiple channels. It succeeds in doing so first, to the extent that corruption reduces economic growth and the income of the poor is affected on a larger scale than that of the rich, which in turn leads to increased income inequality and poverty. Second, corruption leads to a bias in the tax system in favor of the rich, effectively reducing the tax system and leading to a higher tax burden on the poor. Researchers see anti-corruption reform as "problem-solving," meaning that reformers seize small opportunities and use the complexity of policy areas to advance small but often cumulative changes. The problem-solving perspective emphasizes the role of policy makers in domestic politics. These actors must have the flexibility to context-sensitive settings in order to address specific policy issues. The problem-solving perspective is more important in developed environments, where adaptation to external pressures is not achieved through policy constitutionalism. In these environments, policymakers must first aim to improve those structural factors (financial transparency, administrative simplification, professional bureaucracies, etc.) that are prerequisites for success in the global list of anti-corruption tools. Second, they must choose specific tools to control corruption that can be gradually adjusted given capacity constraints (Mascio and Piattoni, 2020). Authur Okun developed the misery index in the 1960s by combining unemployment and inflation to understand the true picture of economic misery. In this article misery index, the sum of inflation and the unemployment rate is considered. Rich people are usually on assets such as stocks, land, real estate, real estate investment and jewelry, and cover inflation. This is not easy for low-income people; because entering into these activities usually requires a minimum of assets that these people cannot provide. Thus, the poor keep a larger proportion of their wealth in cash than the rich, and are therefore more prone to declining purchasing power due to inflation. The increase in inflation reduces the real value of currency holdings increased inequality (Shakeri et al., 1392). Unemployment affects income inequality through various channels; Unemployment affects income inequality through changes in household disposable income, labor share wages, informal jobs, market development, and government spending. Concerns about lack of income due to unemployment can largely jobless benefits like unemployment insurance with other forms of income support destroyed. Increasing unemployment increases the financial level of unemployment benefits and in addition to serious effects on the individual, it damages the society's economy (Ansari Samani and Khel Kordi, 2019).

2. The main purpose

The purpose of this paper is to investigate the effect of misery index and corruption control on income inequality in Iran during the period 1996 to 2019, using the quantile regression method.

2-1. Theoretical background, method and data

Quantile regression method, introduced by Koenker and Bassett (1978), in contrast to the ordinary least squares method, examines the final effect of explanatory variables on the dependent variable at different points of distribution, not just the mean. The most important application of multiple regression is to identify the shape of the dependent variable distribution of the pattern at different levels of the independent variable. This is done by fitting multiple regression patterns to a set of data for different sets. The method of estimating the parameters of a typical regression model is based on minimizing the square of the residuals of the pattern deviations, which is called the least squares method. In this method, the regression curve is fitted in such a way that the total distance between the points is minimized. In quantile regression, unlike conventional regression, the minimization of the total absolute value of the residual residuals is used to estimate the pattern parameter, which is called the absolute minimum deviation or LAD method.

In this study, the necessary data and information for research have been extracted through databases and information including Central Bank, Statistics Center, World Bank and WGI (2018) during the period 1996-2019 and in different deciles, using quantile regression method, the effect of misery index and corruption control on income inequality in Iran has been studied. For this purpose, the model under study with relation (1) is as follows:

$$\mathrm{QGINI}_t(\tau|X_{it}) = \beta_1(\tau)(CCI_t) + \beta_2(\tau)(\mathrm{EF}_{t-1}) + \beta_3(\tau)(\mathrm{LMI}_t) + \beta_4(\tau)(\mathrm{Exp}_t) + \beta_5(\tau)(\mathrm{lree}r_t) + \mu_\tau \quad (1)$$

In this model, t represents the time period and the variables Gini coefficient, corruption control, economic freedom index, misery index (total inflation and unemployment rate), final government consumption expenditure (percentage of GDP) and real effective exchange rate as the main variables are used. Therefore, the variables used in this study include 6 variables (5 independent variables and one dependent variable) as described in Table (1):

Table (1): Variables used in the model and the expected sign

	Symbol	**Variable**	**expected sign**
Dependent variable	Gini	Gini coefficient (income inequality index)	Dependent
Explanatory variables (macroeconomics)	CCI	Corruption control	Positive
	EF	Economic Freedom Index	Unknown
	Exp	final government consumption expenditure (percentage of GDP)	Positive
	LMI	Log misery index	Unknown
	Lreer	Log real effective exchange rate	Positive

Source: Research Findings

3. Conclusion

According to the results of the estimate, it can be said that with increasing corruption control, income inequality increases. The positive effect of corruption control on income inequality in Iran can be the result of adopting inappropriate policies and directing various economic sectors, including services to government sectors, which increases the monopoly power of government and creates an uncertain and insecure economic environment for investment, which ultimately capital outflows from the country, reducing production and national income and increasing income inequality.

Also, the misery index has a positive effect on primary inequality in the primary quantile and a negative and significant effect on income inequality in other quantiles. In fact, in the early quantiles, with rising inflation due to the transfer of income from payers to owners of capital increases income inequality. Also, with the increase of inflation, the value of government payments decreases, and considering that the main people to whom government transfer payments belong are from the lower classes of society, this issue will increase inequality in society. On the other hand, according to the Phillips model, the relationship between inflation and unemployment is inversely related, and as inflation increases, the unemployment rate decreases and conversely, the lower the participation of the active labor force in economic activities, the greater the severity of poverty and inequality in society, also by increasing the demand for labor and reducing unemployment, which ultimately leads to an increase in income, the living conditions of the people are better and the amount and severity of poverty and inequality in society is reduced. Also, the index of economic freedom and the effective exchange rate have a positive and significant effect on income inequality and using the Bootstrap method, the results of quantile regression are also confirmed.

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