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The Nonlinear Effect of Government Size on Inflation in Iran: Markov Switching Approach

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Abstract

Inflation harms to low-income people with a fixed income and profits to traders and debtors, and by creating a deviation in the income level of people, it brings significant social turmoil. Considering the harmful effects of inflation and the fact that in some periods, Iran's economy has had high inflation and in some periods, low inflation, this research is about the Non-linear effect of government size on inflation in Iran during the period of 1981-2021. Has investigated with the Markov switching approach. The findings showed that in this time period, the size of the government had a Non-linear effect on inflation in Iran, in both high inflation and low inflation regimes, the size of the government had a positive and significant effect on inflation, but the effect of government size on inflation In the high inflation regime, it was more than the low inflation regime. Because in the high inflation regime, the increase in the general level of prices has been accompanied by an increase in economic uncertainty, which in turn has led to a decrease in investment and ultimately a decrease in economic growth. Therefore, it is suggested that the economic policy makers in Iran should put more financial discipline in their work agenda and prevent the excessive size of the government.

Keywords: Government Size, Inflation, Nonlinear, Markov Switching Approach, Iran.

JEL Classification: C22, H50, O47.

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1. Introduction

Economists disagree about the effect of government spending on inflation from two dimensions. 1. The inflationary nature of the increase in government spending. 2. The conduits and channels through which the increase in government spending increases inflation. The present study will attempt to empirically investigate the effect of government size on inflation in Iran by using the Markov switching model and data from the period 1981-2021. It should be noted that using the Markov switching model and considering the regimes prevents significant errors of economic decision-makers in ignoring the different effects of changes in the size of the government on inflation in different ranges of inflation.

2. Theoretical Framework

Classical macroeconomics considers the increase in government spending as inflationary due to the economy being in a state of full employment. Keynesian macroeconomics believes that an increase in government spending will increase aggregate demand, but on the condition that the economy is not in the limit state of Keynesian unemployment and despite the rising aggregate supply curve, it will lead to an increase in aggregate production and an increase in inflation. In the monetary approach of explaining inflation, Friedman (1963) has argued that the main cause of inflation is the financing of government expenditures through the action of monetary authorities to print money, believing that inflation is always and everywhere a monetary phenomenon. Afonso et al. (2018) have argued that the relationship between government size and inflation depends on the methods of financing government expenditures. If government spending is financed by selling government bonds, it is not inflationary due to the crowding out effect, but if government spending is financed by printing money, the money supply will increase, and in the absence of an increase in money demand, inflation will increase. According to the theory, the relationship between the size of the government and inflation depends on the methods of financing government expenses, financing government expenses through the sale of oil and gas and mines leads to an increase in the net foreign assets of the central bank, and as a result, the monetary base and Money supply increases and leads to inflation. Nademi and Winker (2022) believe that the relationship between government strength and inflation in developing countries may be non-linear and U-shaped. In other words, when the size of the government is small, an increase in the size of the government may have a negative effect on inflation, while when the size of the government is relatively large, a further increase in the size of the government may have a positive effect on inflation. Because the government budget deficit must be financed, and in developing countries it is mainly financed through the central bank, and according to the argument of Army's curve (1995), in the case of a large size of the government, from a certain level, the increase in the size of the

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government mainly has a negative effect on the total supply. and according to the general level of prices and inflation increases.

3. Methodology

To estimate the effect of government size on inflation in Iran, the Markov switching approach is used. Equation (1) is used to analyze the relationship between the variables and specify the research model according to the subject literature and the background of the research.

(1) $inf_t = \alpha + \beta_1 gov_t + \beta_2 grow_t + \beta_3 li_t + \varepsilon_t$

Where inf_t shows inflation, gov_t the size of the government, li_t the ratio of liquidity to GDP and $grow_t$ economic shows growth. Also, α is intercept, β is the vector of explanatory variable coefficients, and ε_t is the disturbance term, and it is assumed that it follows the white noise process. To measure the size of the government, the ratio of total government expenditure to GDP is used. GDP growth is also used to measure economic growth. The source of the data is the Central Bank. To validate the data, the consumer price index for the base year of 2013 is used.

4. Discussion

According to the findings of this research, in this period in Iran's economy, in the regime of high inflation, the intensity of the effect of the size of the government on inflation was greater than in the regime of low inflation And a decrease in economic growth along with high inflation means a decrease in the government's real income, which exacerbates the increase in government spending and the budget deficit in the conditions of oil sales and the increase in the government's debt to the central bank. In general, the increase in the size of the government has been accompanied by the growth of the price index in the Iranian economy. Examining the impact of economic growth on inflation also showed that with the increase in economic growth, the inflation rate in Iran has decreased; with the difference that in the high inflation regime compared to the low regime, the effect of economic growth on inflation was less.

5. Conclusion and Suggestions

The existence of a continuous budget deficit is one of the characteristics of Iran's economy. In order to reduce the effects of the size of the government on the country's inflation, it is suggested that in high inflation regimes, the monetary authorities control the growth of the country's liquidity, and in the event of a budget deficit, the government provides the necessary resources. through financial instruments such as the sale of partnership bonds to the private sector. It is also suggested that the government adopt and implement the policy of financial discipline, increasing the country's economic growth and, as a result, increasing tax revenues in the country.

6. Ethical Considerations

6.1. Funding

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6.2. Authors' Contribution

The authors of the article have participated in this article with the same contribution in compliance with the publication ethics.

6.3. Conflict of Interest

The authors of the article declare that there is no conflict of interest.