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The effect of economic inequality on fiscal policy in the political cycle, a study in the provinces of Iran

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EXTENDED ABSTRACT

INTRODUCTION:

Public debt, government spending and taxes are among the financial instruments that governments have available for financing. On the other hand, a government seeking re-election tries to avoid social unrest. The question we seek to answer in this research is what is the government's policy in the face of social unrest? Therefore, in this research, the effect of Gini coefficient as a representative of social unrest on public debt, government expenses and tax revenues has been investigated. The statistical sample in this study is 31 provinces of the country in the period from 2011 to 2020.

The government, which seeks to increase its chances of re-election in the elections, tries to minimize the negative effects of social unrest in the society. For this purpose, limited financial tools are inevitably used. One of the indicators that can exacerbate social unrest is the existence of class gaps and the intensification of economic inequalities in society (Carrera, Vega, & Toledo, 2024). Class gap and poverty in society is caused by wide inequality in income distribution. Economic inequalities can weaken social cohesion and lead to challenges such as social dissatisfaction and political instability (Shaltger & Vedder, 2014). Political instability reduces the probability of re-election of the ruling government; Therefore, in the years close to the elections, the governments have sought to reduce the class gap by applying expansionary financial policies through financial instruments in order to gain the satisfaction of the society.

Rulers have a level of authority that only they truly know and that is unknown to the citizens. Since voters cannot directly identify a politician's competence, they must infer it from the results of fiscal policies; Therefore, voters choose candidates who spend more before the election who implement

either tax cuts or government spending increases, because this seems to be a valid indication of their high level of competence. As a result, this information asymmetry creates an incentive for politicians to spend more or cut taxes before elections, thereby increasing their chances of staying in power (Rogoff & Siebert, 1988; Rogoff, 1987). Incumbents have incentives to increase the supply of public goods before elections, in the hope that voters will attribute the increase to their merits (Shi & Svensson, 2006).

From an empirical perspective, research shows that the political cycle phenomenon is conditioned by factors and contexts, for example, their driving mechanisms and the conditions under which they occur are very different in different countries. Some of these conditional factors that are prominent in the literature are media freedom (Veiga, Veiga, & Morozumi, 2017), features of the electoral system (Idet and Mooney, 2014) and the research of (Bohn & Vega, 2019) shows how expectations of a possible recession is to strengthen the political budget cycle.

With the increase of the government's construction expenditure, the increasing mechanisms of active income and the purchasing power of the society increase. As a result, as the demand for the goods and services created increases, investment will increase again. The continuation of this cycle will lead to the creation of stable employment and income, and thus will improve the income distribution of the society. However, the government's current expenditures, which have a non-productive effect, usually go to the high-income groups of the society and do not allow the low-income groups to benefit (Akbari, Farahmand, & Jamali, 2011). Moreover, empirical regional studies in Iran confirm that government size, fiscal instruments, and financial inclusion play a pivotal role in mitigating provincial income inequality (Pirzadi, Soufimajidpour & Mahmodzadeh, 2025; Zobeidi, Khodapanah & Montazer Hojat, 2025). Economic inequality affects many macroeconomic variables such as budget deficit and government debt (Monir & Sultan, 2017). This effect on the public debt of the government is theoretically and empirically ambiguous. In other words, the income inequality on the public debt of the government can be both positive and negative according to the conditions. This work can be examined in two perspectives. In the first view: as economic inequality increases, income risk also increases, thus increasing the government's incentive to borrow. In fact, government debt is the result of government policies in the face of economic inequality (Azzimonti, De Francisco, & Quadrini, 2014). In the second view, the increase in economic inequality causes the accumulation of capital and, as a result, the increase in

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production, and finally, tax revenues increase and the public debt of the government decreases (Sadeghi Amroabadi & Hooshmandi,2021).

The combination of government spending has a direct and indirect effect on income inequality. While subsidies and taxes directly affect inequality, spending on public services can indirectly affect income distribution through the channel of strengthening people's abilities (Vigas & Ribeiro, 2013). Government spending can have decisive effects on the pattern of income distribution through improving the ability of the workforce and creating social and economic infrastructure (Lustig, Pessino, & Scott, 2014). As inequality in society increases, the demand for public goods and services increases. On the other hand, the government increases its expenses in order to satisfy the citizens and meet their demands and avoid facing unrest. Therefore, with the increase in economic inequality, government spending will increase (Hendricks & Myles, 2006).

Tax as a permanent and predictable source has always been the focus of the government of men. Applying taxes, both for the purpose of earning income and for the purpose of policy making, imposes different effects on the economy. On the one hand, taxes have an impact on the distribution conditions of the society due to the impact of taxes, and on the other hand, they bring allocation effects by moving resources from one market to another. It is through the tax system that the government can collect a portion of people's income to provide public services, help low-income groups, or pay directly to the poor. In fact, the effect of tax revenue is exerted through the transfer of income from the market to the government and from the government to the whole society. Through taxes, the government can intervene in the market, cover its expenses and affect the distribution of income (Sadeghi, Beheshti, Ranjpour, & Ebrahimi, 2017).

In this research, the effect of economic inequality on financial policy in the political cycle in the period of 2011to 2020 has been investigated using two methods, FGLS and GMM, for 31 provinces of the country.

The results of this research show that with the increase in urban economic inequality in Iran's provinces, the government's policy in the face of unrest is to increase the budget deficit as a proxy for public debt, while the policy adopted in the face of unrest caused by rural economic inequality is to increase spending and increase It is a budget deficit. The increase in urban economic inequality in interaction with the ratio of the executive period has a positive and significant effect on public debt and government expenses and significantly reduces tax revenues. The increase in rural economic inequality in interaction with the ratio of the executive period has a negative and

significant effect on government debt and expenses and increases tax revenues significantly.

The comparison of the results of the conducted studies shows an empirical gap of examining the effect of economic inequality on government financial instruments, including public debt, government spending and tax revenues with the presence of a political variable, which this article tries to cover and strengthen the empirical literature in this field.

METHODOLOGY:

In this study, two methods of feasible generalized least squares (FGLS) and generalized moments (GMM) have been used to estimate research models.

Since the problem of variance heterogeneity has an important effect on statistical estimations and inferences, it is necessary to check the presence or absence of variance heterogeneity. To test the hypothesis of heterogeneity of variance of panel data, the variance of heterogeneity of exponential ratio test can be used, which confirms the existence of heterogeneity of variance if the hypothesis $H_0$is rejected. Also, the problem of autocorrelation should be investigated, and the Wooldridge autocorrelation test can be used. The rejection of the null hypothesis is based on the existence of autocorrelation. If these two problems are confirmed, the ordinary least squares method is not valid enough. Therefore, it is possible to use the possible generalized least squares method in which the problem of heterogeneity of variance and autocorrelation is solved for estimation.

In the GMM method, the Sargan test indicates the accuracy and validity of the selected instrumental variables, and its non-significance at the 0.05 level confirms the accuracy and validity of the selected instruments. The second-order autocorrelation test of AR(2) residuals is another test that, according to Arelano and Band (1991), the model estimated by the GMM method should have no second-order autocorrelation. The probability of second-order autocorrelation should be higher than 0.05 (Labra Lillo & Torsilas, 2018).

FINDINGS:

In this research, the policy adopted by the government in response to social unrest has been studied considering increasing its chances for re-election in the elections. In this regard and to measure this reaction, the effect of the Gini coefficient as a representative of social unrest on government debt, tax revenues and government expenditures has been investigated. The statistical sample in this research is 31 provinces of Iran in the period from 2011 to 2020. The estimation of the regression model of this research has been done

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in 6 different specifications from the possible generalized least squares method and generalized moments. To evaluate the government's policy in the face of social unrest, urban and rural Gini coefficients are used separately.

In total, the findings of the research show that the government's policy in facing the unrest caused by the increase in urban and rural economic inequality is different. According to the results of the estimation of different models, the increase in urban economic inequality in Iran's provinces significantly increases the government's budget deficit. Also, the increase in rural inequality has a significant positive effect on the budget deficit and government spending. The positive relationship between income inequality and budget deficit and government spending indicates that the government's policy in the face of social unrest caused by economic inequality is to create a budget deficit and increase government spending in order to reduce inequalities. In this way, with the increase of economic inequalities, the creation of budget deficits and the increase of government expenses can be justified, and this positive relationship is caused by the government's policy in the face of social unrest. The effect of urban economic inequality on tax revenues is positive and significant, which can be justified by the fact that in recent years, the government's policy in securing its revenues has changed from oil revenues to tax revenues, and on the other hand, in the urban areas of the provinces, to The reason that this study includes all kinds of tax revenues, including taxes on goods and income, is that urban tax revenues will be more than rural tax revenues. On the other hand, increasing rural inequality significantly reduces government tax revenues. The effect of the urban Gini coefficient in interaction with the political variable of the executive period ratio (urban Gini coefficient(-1)*Shrterm) is positive on government debt and expenses and negative on tax revenues. While the increase in inequality in rural areas in interaction with the executive ratio (Rural Gini coefficient (-1)*Shrterm) significantly reduces the government's debt and expenses and increases the government's tax revenues.

CONCLUSION:

The research is in line with the literature that analyzes how inequality and the political cycle interact with financial variables. The empirical approach of this study proves the argument that in order to maintain social stability, in order to increase the chances of remaining in office, policy makers increase the government budget deficit in urban areas and increase the budget deficit and government spending in rural areas of the provinces. The empirical results of this study show that governments choose to use government budget deficits

in urban areas and rural government spending in provinces to face unexpected increases in inequality to maximize their re-election chances. Comparing the results of this study with previous studies such as (Carrera, Vega, & Toledo, 2024) shows that the government of the countries studied in their research, which is a collection of developed and developing countries, have used public debt issuance in response to social unrest, which indicates that The result is the same as the leading research. With the explanation that in this study, due to the lack of information on public debt, the proxy of budget deficit was used instead of public debt, and also inequality was investigated in a provincial way and separated into urban and rural areas.

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