



## The relationship between government size and public expenditure efficiency in Iran

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### Abstract

Analyzing the relationship between government size and the efficiency of public expenditure can play a crucial role in enabling optimal decision-making for improved public resource management. This study investigates the relationship between government size and public expenditure efficiency in Iran over the period 2000 to 2023. To this end, the study first employs Data Envelopment Analysis (DEA) to measure the efficiency of public expenditure. Then, the impact of government size on expenditure efficiency is examined using a multivariate regression model. The results reveal that the efficiency of public spending in Iran has fluctuated throughout the study period, and certain government size indicators have had a statistically significant effect. Specifically, the hypotheses linking government size to public expenditure efficiency are rejected for the indicators of income distribution and economic management, while accepted for the indicators of macroeconomic stability and infrastructure. Accordingly, it is recommended that policymakers prioritize targeted reforms in government expenditure structures with a focus on stability and infrastructure indicators.

**Keywords:** Government Size, Public Spending Efficiency, Data Envelopment Analysis (DEA), Regression Model.

**JEL Classification:** O23, C61, H50, H11.

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## 1. Introduction

This study investigates the relationship between government size and the efficiency of public spending in Iran. The objective is to assess government size's impact on public expenditure's effectiveness.

The role of government as a cornerstone of the economy is vital for resource allocation, public service provision, and economic regulation. Government size, often measured by its share of GDP, indicates the extent of state intervention. In Iran, the optimal size of government has been a long-standing debate. While government intervention is crucial, an oversized and inefficient public sector can lead to resource misallocation, corruption, reduced competitiveness, and stunted economic growth. Efficient utilization of public funds, enabling high-quality public services at minimal cost, is paramount for sustainable development. One of the key challenges is the inefficiency of public expenditures, evidenced by suboptimal resource allocation and unsatisfactory public services, attributable to corruption, lack of transparency, inadequate monitoring, and poor project management.

## 2. Theoretical framework

Classical economics, Advocates limited government intervention and market-driven resource allocation. Socialist economics, Supports extensive government control for social justice and equitable income distribution. Keynesian economics, argues for government intervention to stabilize the economy. Welfare state theory: Emphasizes the government's role in providing social services. Public choice theory: Examines the behavior of politicians and bureaucrats, suggesting they may prioritize personal interests. Theory of convergence, Government sizes converge to a certain level over time. Musgrave's three functions of government are resource allocation, income distribution, and economic stabilization. These competing theories provide a framework for understanding the potential trade-offs between government size and efficiency.

## 3. Methodology

To achieve this objective, quantitative methods alongside data envelopment analysis (DEA) have been employed to assess the efficiency of public expenditure. Subsequently, a regression model has been utilized to investigate the impact of government size on this efficiency. The required data were obtained from official statistics and international reports and subsequently analyzed with econometric software.

This study employs Data Envelopment Analysis (DEA) to measure public expenditure efficiency, comparing the performance of different government units. A regression model then analyzes the impact of government size on efficiency scores. This approach identifies dimensions of government size that significantly influence public expenditure efficiency. Data is collected from official statistics and

international reports. Econometric software is used to analyze the data and estimate the regression models. This analytical framework identifies statistically significant relationships between government size, control variables, and public expenditure efficiency.

#### 4. Discussion

The findings indicate that the efficiency of public expenditure in Iran fluctuated throughout the examined period, with certain indicators of government size exerting a significant influence on this efficiency. Moreover, econometric tests indicate that institutional quality and fiscal governance consistently moderate the effect of government size on spending efficiency. Robustness checks confirm these findings across alternative DEA specifications and model specifications.

The analysis of the data revealed several key findings. The efficiency of public expenditures in Iran varies significantly over the period studied, indicating considerable room for improvement. Certain indicators of government size demonstrate a statistically significant impact on public expenditure efficiency. Understanding the nuances of these relationships is crucial for designing effective policy interventions. The impact of government size may depend on various factors, including the quality of governance, the level of corruption, and the specific sectors in which public funds are allocated.

Policy-relevant implications include prioritizing transparent budgetary processes, adopting performance-based allocation, strengthening audit institutions, and reducing discretion in project selection. Targeted investment in stabilizing infrastructure and capacity-building for public managers enhances the translation of expenditures into measurable outcomes. Ultimately, optimizing government size requires coordinated reforms that combine fiscal restraint with accountability mechanisms to secure sustainable efficiency gains.

#### 5. Conclusion

Future research should exploit micro-level program evaluations to validate causal mechanisms robustly. To enhance the effectiveness of expenditure, it is recommended that the government focus on optimizing public spending within the nation by refining resource allocation and bolstering the oversight framework. This study can assist policymakers in making more informed decisions regarding the management of public resources.

The research provides empirical evidence on the relationship between government size and public expenditure efficiency in Iran. The findings offer valuable insights for policymakers aiming to improve fiscal management, enhance public sector performance, and promote sustainable economic development. By pinpointing the factors that influence public expenditure efficiency, the study contributes to the development of targeted policies and reforms aimed at optimizing the utilization

of public resources. Specifically, the findings suggest a need for improved resource allocation mechanisms within the government and strengthening of oversight and accountability measures to reduce corruption and improve the efficiency of public service delivery.

## **6. Ethical considerations**

### **6.1. Compliance with ethical guidelines**

This research adheres to the highest ethical standards. The research is conducted with objectivity and integrity, avoiding any bias in data collection, analysis, and interpretation.

### **6.2. Funding**

This research was conducted without external funding. All resources were provided by the researchers and their affiliated institutions.

### **6.3. Authors' Contribution**

All authors contributed significantly to the research design, data collection, analysis, and manuscript preparation.

### **6.4. Conflict of interest**

The authors declare that there are no conflicts of interest related to this research. The research was conducted independently, without any influence from external parties.