



# ANALYZING THE EFFICIENCY AND IMPACT OF PUBLIC EXPENDITURE ON ECONOMIC PRODUCTIVITY IN IRAQ: A STUDY FOR THE PERIOD (2010-2020)

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Article history:	Abstract:
<b>Received:</b> 10 <sup>th</sup> August 2024 <b>Accepted:</b> 7 <sup>th</sup> September 2024	This research deals with the performance of public expenditure and its productivity in Iraq during the period (2010 – 2020). It highlights the importance of stable financial policies and flexible strategies to improve the economic performance of public expenditure in Iraq. The analysis reveals ineffective use of public expenditure, as data shows significant fluctuations in spending, and the increase in public expenditure was not accompanied by an increase in its partial and total productivity. The main problem lies in the governments' inability to effectively utilize public expenditure to enhance productivity. The research hypothesizes that there is a negative relationship between increased spending and decreased productivity. The research concludes that poor management and planning are the primary barriers to productivity decline, while recommendations include increasing transparency, redirecting expenditure to key sectors, and improving the efficiency of public expenditure.

**Keywords:** Public Expenditure – Total Productivity – Partial Productivity – Gross Domestic Product

## INTRODUCTION

Directing public expenditures correctly is one of the fundamental factors that increase productivity and boost economic growth rates in any country. Iraq is currently facing numerous growing economic, security, and political challenges. The period from 2010 to 2020 saw fluctuations in public spending levels due to various economic, security, and health conditions. This raises many questions about the effectiveness of fiscal policy. Despite the continuous increase in public expenditures, this rise has not translated into a corresponding increase in spending productivity. The problem lies in the low productivity of public expenditures, whether current or investment expenditures. This research gains importance from the need to understand the significance of both overall and partial productivity and to provide recommendations aimed at formulating strategies for public spending that enhance productivity, contributing to an increase in Iraq's GDP growth.

## RESEARCH PROBLEM

The research problem is the inefficient use of public expenditures in Iraq, which has negatively impacted the productivity of both current and investment public spending. It has been shown that the increase in government spending has not led to a corresponding rise in productivity. The problem can be formulated with the following statement: "Despite the increase in public expenditure, it does not reflect proportionately in the productivity of public spending in Iraq."

## RESEARCH HYPOTHESIS

The lack of a clear economic vision by the government and poor management result in inefficient public expenditures and decreased productivity in Iraq.

## RESEARCH IMPORTANCE

1. Economic analysis helps in understanding how public expenditures impact productivity and GDP growth.
2. It provides clear insights for economic policymakers to improve public expenditure management and enhance its productivity.
3. The analysis helps reveal deficiencies and challenges facing fiscal policy, contributing to higher economic growth rates and achieving economic development through improved efficiency of public spending.

## RESEARCH OBJECTIVES



1. Analyzing the overall and partial productivity of public expenditures in Iraq.
2. Evaluating the performance of public expenditures and identifying the challenges facing economic policy during the period from 2010 to 2020.

#### PREVIOUS STUDIES

1. A study by Muna Younus Hussein titled "**Analyzing and Measuring the Long-term Balance Relationship Between Changes in Government Spending and Real Growth in Iraq for the Period 1990-2018:**" This study aimed to analyze public spending and GDP growth in Iraq. It employed co-integration and Granger causality to examine the relationship between economic variables. The co-integration analysis revealed no long-term or short-term equilibrium relationship between government spending and real oil output.
2. **A Study by Zainab Jabbar Abdul-Hussein Al-Daami titled "Productivity of Public Spending in Iraq and the Issue of Temporal Disparity during the Fiscal Year":** This research aimed to address issues in the Iraqi economy, specifically the delay and irregularity in the state budget decision process during the fiscal year. The study found that public spending productivity is at its highest in the first quarter of the fiscal year and then declines thereafter.
3. **A Study by Jawad Kazem Mohei titled "Measuring the Efficiency of Government Spending in the Performance of Economic Sectors in Iraq":** This research aimed to understand the factors influencing the efficiency of public spending and how to achieve an optimal level of spending. The study concluded that Iraq adopts an expansionary public spending policy and that there is significant government intervention in economic affairs.
4. **A Study by Ali Kazem titled "The Impact of Public Expenditure Development in Iraq on Certain Economic Stability Indicators for the Period 2006-2020":** The study aimed to investigate the impact of public expenditure on economic stability and growth. It concluded that the structure of public expenditure heavily focuses on operational expenses, with misuse of authority leading to the loss of substantial foreign currency that could have been utilized to foster economic growth.

#### THEORETICAL FRAMEWORK

##### 1. Public Expenditures

Public expenditures are defined as the set of expenses incurred by the state to achieve economic and social objectives, such as participating in economic activities, investing in various economic projects, providing subsidies and grants aimed at boosting production, and spending on infrastructure like roads, bridges, and transportation, which contribute to raising the country's economic growth rate (Nashid, 2009, p. 33). Public expenditures are also defined as cash amounts spent by public authorities to achieve general objectives that benefit society (Ayeb, 2010, p. 102).

Another group of scholars defines public expenditure as the amount of money spent by the state for the purpose of achieving public welfare. This concept of public expenditure is defined by three elements: it must be issued by a public entity, it must serve the public good, and it must involve cash amounts, as in-kind resources are not considered public expenditures (Andraws, 2010, p. 99).

Others define it as the total financial amounts the government spends to provide public services to citizens, purchase goods to facilitate its services, assist segments of society, or establish economic and social projects (Mithan, 1998). The main types of government expenditure include:

##### 1.1 Current Expenditures

Current expenditures are those that are regularly incurred to manage the affairs of the state and meet public needs. They also include expenditures made for public and administrative interests, such as government spending on goods and services, wages, salaries, interest payments, and subsidies. This type of spending contributes to the operation of public government facilities with the aim of maintaining a stable average income for individuals and ensuring the continued provision of services to the community by the government, such as health, education, security, and defense, among other services that sustain economic stability. In general, current expenditures include user expenses and equipment expenses (Al-Khazraji, 2004, p. 40)."

##### 2.1 Investment Expenditures

Investment expenditures refer to the funds the state spends to achieve increased production, such as expenses incurred to obtain goods and services, commonly known as investment expenditures. This occurs when the state uses its purchasing power represented by public expenditures to acquire labor, goods, and services. The expenditure reflects the purchase or acquisition price that the state pays to obtain these goods, resulting in an increase in national income. This increase directly contributes to the Gross National Product by creating new productive capacity when the government measures its expenditures (Atlam, 1998, p. 84).

##### 1.2 Reasons for Increasing Public Expenditures

Despite differing interpretations among economists, the increase in public expenditures remains a common phenomenon across both developed and developing countries. The reasons behind this can be genuine, leading to a



real increase in public expenditures that expands the quantity of public goods and services and consequently raises the average share per individual of these goods and services. Alternatively, the reasons can be superficial, resulting in only a nominal increase in public expenditures without any significant expansion in the quantity of public goods and services (Al-Omar, 1981, p. 255).

The genuine reasons include:

- a) The expansion of the state's role and its increased intervention in social and economic life.
- b) The widening of the state's political relations internationally through increased political representation or participation in international and regional organizations, and domestically through expanded democratic processes.
- c) Keeping pace with technological and technical advancements.
- d) Interesting in military sectors and the acquisition of modern weapons.
- e) Population growth, which requires the state to increase its public services.

The minor reasons include (Abdul Muttalib, 2005, p. 184):

- a) Decreasing the value of money due to inflation and rising general price levels.
- b) The geographical expansion of the state.
- c) Variations in accounting regulations governing the preparation of the general budget.

## **2. CONCEPT OF PRODUCTIVITY AND ITS MEASUREMENT METHODS**

Productivity holds significant importance in economic projects, leading to various definitions. Productivity is generally defined as the ratio of outputs to inputs, specifically the ratio between total output and the production factors used to create goods and services. Another group of scholars defines it as a measure of efficiency, referring to the degree of efficiency in transforming raw materials into goods. Others define productivity as the efficient use of resources, reflecting ongoing improvements in production organization and the effective use of various economic resources (Arab Industrial and Mining Organization, 2004).

Productivity growth is one of the most critical components contributing to long-term, sustainable economic growth. Hence, we can define the productivity of public expenditure as the relationship between the growth rate of public spending and the economic growth rate. Public expenditure productivity is crucial as it justifies the government's intervention in economic activity. It shows the productivity of a single unit of public expenditure through its effect on the Gross Domestic Product (GDP) essentially, how much GDP increases when spending increases by one unit. Productivity can be positive, zero, or negative. When public expenditure increases by one unit and the output increases positively, we say that public expenditure is productive by a certain amount (greater than zero). However, if public expenditure increases and the level of output remains unchanged, we say that the productivity of the expenditure is equal to zero, meaning it is unproductive. Conversely, when public expenditure increases and the level of output decreases, we then say that the productivity of the expenditure is negative (less than zero), indicating that the output does not respond to public expenditure. Therefore, government expenditure is described as productive if it results in an increase in economic growth rates. This expenditure leads to an increase in the ratio of public services to the funds spent by the government, according to the following equation:

$$\text{Government Expenditure Productivity} = \frac{\text{Public Services}}{\text{Public Funds Spent}}$$

### **2.1. Methods of Measuring Public Expenditure Productivity**

#### **2.1.1 Measuring the Total Productivity**

Total productivity is defined as the relationship between the total output generated from expenditures and the total expenditures used to obtain that output. According to this definition, Total Productivity (denoted as TP) represents the mathematical ratio between total output (usually measured by Gross Domestic Product, or GDP) and total input (total government spending, or TG). This approach is considered the most effective method for improving individuals' living standards and achieving a better life for society as a whole. Economists define this process as one that results in the continuous increase of national production over time (Dimand, 2002). The American economist Kuznets defined it as 'the continuous increases in the production of material wealth.' He considered that one of the main sources of economic growth is investment in both physical and human capital, in addition to technological advancement and the efficiency of economic systems. This is achieved through the training and qualification of the workforce to increase its productivity, while physical and human capital contribute to this growth. Technological advancement lies in the use of new production methods, as well as innovation and invention (Al-Masoudi, 2010). He also defined the improvement in living standards as resulting from an increase in income, which allowed individuals to consume more goods and services (Mankiw, 2000, p. 77). This is represented by Total Output (TO) and the total amount of inputs (total expenditures) used to achieve it, represented by Total Input (TI). The formula for measuring total productivity is as follows:

$$\text{Total Productivity (TP)} = \frac{\text{Total Output (TO)(GDP)}}{\text{Total Input (TI)(TG)}}$$

#### **2.2.2 Measuring Partial Productivity**



Partial productivity refers to the quantitative relationship between outputs and one type of total expenditure. Partial measurement means assessing the productivity of each expenditure separately. This measurement is useful in explaining the changes that occurred in the total productivity of public expenditures, allowing for a more precise diagnosis of the issues. If there is a more significant decline in the overall measure of expenditure productivity, it is desirable to know whether this decline is due to a decrease in the productivity of investment spending or in the productivity of consumption spending. This specification will aid in developing a plan for correction and improvement. It can be measured according to the following formula:

$$\text{Partial Productivity (PP)} = \frac{(\text{GDP})}{\text{Specific Expenditure Type (G)}}$$

## Section Two: The Reality of Public Expenditure and Its Productivity in Iraq (2010-2020)

### 1. Proportion of Consumption and Investment Expenditures from Public Expenditures (2010-2020)

According to Table (1), consumption expenditures increased significantly, reaching 78.75, 75.79, and 60.93 trillion dinars for the years 2011, 2012, and 2013, respectively. However, they subsequently declined to 58.63, 51.83, and 51.17 trillion dinars in 2014, 2015, and 2016. This decrease can be attributed to the challenging circumstances Iraq faced, including the escalation of terrorist activities, which impacted economic, political, and security conditions. Additionally, falling oil prices contributed significantly to this decline. While growth rates for consumption expenditures were positive at 3.9%, 24%, and 11% in 2011, 2012, and 2013, they became significantly negative, at -25% and -11%, for 2014 and 2015. Growth rates then started to rise positively, reaching 29%, 31%, and 13% in 2018, 2019, and 2020, respectively. Investment expenditures initially increased, reaching 40.38, 35.17, 83.17, and 15.55 trillion dinars in 2010, 2011, 2012, and 2013. However, they then declined to 13.82, 16.46, 18.89, 18.56, and 24.93 trillion dinars for 2014, 2015, 2016, and 2018, before rising significantly to 35.30 and 24.42 trillion dinars in 2019 and 2020. Growth rates for investment spending were positive from 2011 to 2013 but registered negative growth of -38%, -25%, and -14% in 2014, 2015, and 2016, respectively, before increasing significantly, reaching 44% and 76% in 2019 and 2020. Consumption expenditures represented a large portion of Iraq's public spending, comprising 77.8%, 70.5%, 82.9%, and 79.4% of total public expenditures in 2010, 2014, 2018, and 2019, respectively. However, the percentage of investment expenditure from the state's total public expenditures fluctuated during the study period between 22% in 2010 and 29% in 2014, except for the decline that occurred in 2018, which reached 17%.

Table (1) Growth Rates of Consumption and Investment Expenditures and Their Proportions of Total Public Expenditures

Year	Consumption Expenditure (Trillions)	Growth Rate of Consumption Expenditure (%)	Investment Expenditure (Trillions)	Growth Rate of Investment Expenditure (%)	Total Public Expenditure (Trillions)	Percentage of Consumption Expenditure to Total Expenditure (%)	Percentage of Investment Expenditure to Total Expenditure (%)
2010	54.58	-	15.55	-	70.13	77.82	22.18
2011	60.93	11.0	17.83	14.0	78.76	77.36	22.64
2012	75.79	24.0	29.35	64.0	105.14	72.08	27.92
2013	78.75	3.9	40.38	37.0	119.13	66.10	33.90
2014	58.63	-25.0	24.93	-38.0	83.56	70.16	29.84
2015	51.83	-11.0	18.56	-25.0	70.40	73.63	26.37
2016	51.17	-1.0	15.89	-14.0	67.07	76.30	23.70
2017	59.03	15.0	16.46	3.0	75.49	78.19	21.81
2018	67.05	13.0	13.82	-16.0	80.87	82.91	17.09
2019	93.89	31.0	24.42	76.0	111.72	84.04	21.86
2020	113.31	29.0	35.30	44.0	146.63	77.28	24.07

Source: The table was prepared by the researchers based on:

- Central Bank of Iraq, General Directorate of Statistics and Research, Annual Economic Report, various years.
- Republic of Iraq, Ministry of Finance, Final Accounts, various years.
- Columns (8, 7, 4, 2) were prepared by the researcher.

The researchers believe that public spending in essential areas of the state, such as education, health, and infrastructure, positively promotes economic growth. This type of expenditure stimulates both total and partial





productivity, improving living standards. In contrast, spending in non-productive areas is inefficient for achieving economic growth and leads to a waste of economic resources.

## 2- Productivity of Public Expenditure in Iraq for the Period (2010-2020):

Economic growth in any country depends on two main factors: the productive efficiency of labor and the investment efficiency of capital use. At the state level, an increase in the productivity of public expenditure leads to higher societal well-being. Moreover, an increase in the productivity of investment expenditure results in a rise in the production of goods and services, consequently increasing incomes and improving the living standards of community members, thereby achieving economic development. All of this falls under the state's general budget and the policies followed by the government. Measuring productivity helps decision-makers implement necessary changes to improve it.

From Table No. (2), it is evident that the productivity of public expenditure in Iraq fluctuates between increases and decreases. The total productivity of public expenditure in Iraq was (0.31, 0.43, 0.41, 0.36, 0.43) for the years 2010, 2011, 2012, 2013, and 2014, respectively. Then, the total productivity of public expenditure in Iraq increased to (0.275, 1.64) for the years 2019 and 2020, with an average for the period (2010-2020) of (0.698182). Meanwhile, the partial productivity of investment expenditure in Iraq was also fluctuating, reaching (10.41992) in 2010 and (18.16631) in 2018. However, productivity significantly decreased to (1.507945, 2.782477) for the years 2019 and 2020, respectively, with an average for the period (2010-2020) of (9.797352). Negative growth rates were recorded at (84-, 45-) for the years 2019 and 2020, respectively.

Table (2) Productivity of Public Expenditure in Iraq for the Period (2010-2020)

Years	Public Expenditure (Trillions)	Gross Domestic Product (Trillions)	Total Productivity of Public Expenditure (Inputs/Outputs)	Growth Rate of Total Productivity of Public Expenditure	Investment Expenditure (Trillions)	Partial Productivity of Public Expenditure	Growth Rate of Partial Productivity
2010	70.13	162.06	0.43	-	15.55	10.42	-
2011	78.76	217.33	0.36	-16	17.83	12.19	16.9
2012	105.14	254.26	0.41	13	29.35	8.66	-28
2013	119.13	273.59	0.43	4.8	40.38	6.78	-21
2014	83.56	266.33	0.31	-27	24.93	10.68	57
2015	70.40	194.68	0.36	16	18.56	10.49	-1.8
2016	67.07	196.92	0.34	-5.5	15.89	12.39	18
2017	75.49	225.72	0.33	-2.9	16.46	13.71	10
2018	80.87	251.06	0.32	-3	13.82	18.17	32
2019	111.72	67.96	1.64	41	24.42	2.78	-84
2020	146.63	53.22	2.75	67	35.30	1.51	-45
<b>Average</b>	<b>91.72</b>	<b>196.65</b>	<b>0.70</b>		<b>22.96</b>	<b>9.80</b>	

Source: The statistics were compiled by the researchers based on:

- Central Bank of Iraq, General Directorate for Statistics and Research, Annual Economic Report, Various Years.
- Republic of Iraq, Ministry of Planning, Statistics and Geographic Information Systems, Annual Statistics, Various Years.
- Republic of Iraq, Ministry of Finance, Final Accounts, Various Years.
- Columns (7, 6, 4, 3) compiled by the researchers.

The above table indicates that the total productivity rate of public expenditure has experienced fluctuations throughout the study period. Additionally, the partial productivity of investment expenditure has also suffered from volatility and decline, despite a slight improvement over the entire study period.

## CHAPTER THREE: CONCLUSIONS AND RECOMMENDATIONS

### FIRST: CONCLUSIONS

1. The research hypothesis has been validated, demonstrating that a lack of a clear economic vision from the government and poor management lead to inefficiency in public expenditure and a decline in its productivity in Iraq.



2. It is observed that an increase in public expenditure does not result in a proportional increase in productivity, along with fluctuations in total productivity, indicating problems in the efficiency of public expenditure performance in Iraq.
3. Due to the unstable security and political conditions in Iraq, especially in 2014 and 2015, government spending priorities have been directed towards military aspects at the expense of strategic projects that serve the country's developmental goals.
4. Political and economic crises play a significant role in reducing the volume of investment and diminishing the efficiency and effectiveness of public expenditure.
5. Iraq faces numerous major challenges in managing its public expenditure and improving its productivity levels, while fluctuations in public expenditure and GDP reflect financial instability that negatively impacts economic development.

## **SECOND: RECOMMENDATIONS**

1. The preparation of the state budget should be based on a medium-term financial strategic framework and developed using scientific methods that provide sufficient information about the present and the past to help forecast the future. Additionally, comprehensive national strategies should be established to transition towards a productive national economy, prioritizing developmental investment expenditure.
2. It is essential to adopt a clear and sound policy for public expenditure that leads to the optimal utilization of financial resources, as well as directing public spending according to priorities among various economic sectors to achieve balanced economic development across all social and economic sectors. Additionally, it is crucial to combat administrative corruption and financial waste and hold accountable those responsible through all available means.
3. It is essential to evaluate government projects and analyze their costs and the returns obtained from them to adopt effective policies for improving the efficiency of public expenditure in Iraq.
4. There is a necessity to increase allocations for investment expenditure in the public budget and direct it towards infrastructure, health, and education, as these sectors can contribute to enhancing the productivity of public expenditure and raising economic growth rates.
5. A financial policy should be adopted to reduce fluctuations in public expenditure and achieve increases in economic growth rates in the country.
6. To improve and increase the productivity of public expenditure, it is essential to develop qualified government personnel to manage public expenditure effectively.

## **REFERENCES**

1. Abdel-Motleb, A. H. (2005). *Economics of public finance*. Alexandria, Egypt: University Printing House.
2. Aib, W. A. H. (2010). *The macroeconomic effects of government expenditure policy: A quantitative empirical study of economic development models* (Vol. 1). Beirut, Lebanon: Al-Hosni Modern Library.
3. Al-Khazraji, T. M. (2004). *Modern political systems and financial policies*. Jordan: Majdalani Publishing House.
4. Al-Masoudi, T. (2010). A study of the necessary growth rates for the benefit of the poor . *Journal of Karbala University for Economic and Administrative Sciences, Volume 9, No. 26*.
5. Al-Omar, S. N. (1981). *Economics of public finance*. Baghdad: Al-Ani Press.
6. Andrawus, A. W. (2010). *Public financial economics in the context of contemporary economic transformations: Taxes, public expenditure, and the general budget* (Vol. 1). Alexandria, Arab Republic of Egypt: University Thought House.
7. Arab Organization for Industrial Development and Mining. (2004). *Guide to the methods and ways of measuring productivity and mechanisms for improving it in spinning and weaving factories in Arab countries*. Arab Fund for Economic and Social Development.
8. Atlam, B. M. (1998). *Public finance: Its tools and economic impacts*. Cairo: Al-Adab Library.
9. Central Bank of Iraq, Directorate General of Statistics and Research. (Various years). *Annual economic report*.
10. Mankiw, N. (2000). *Macroeconomics, Fourth Edition*. S.I, All right reserved to worth.
11. Mithan, M. (1998). *Public Finance: Theory and practice*. New York: Himalaya House.
12. Nashed, S. A. (2009). *Fundamentals of public finance*. Beirut, Lebanon: Al-Halabi Legal Publications.
13. R. W Dimand. (2002) *Origins of Macroeconomics (Vol. 9)*. Psychology Press.
14. Republic of Iraq, Ministry of Finance. (Various final accounts).
15. Republic of Iraq, Ministry of Planning, Central Statistical Organization and Geographic Information Systems. (Various annual statistics).