



Analysis of the Relationship between Public Debt Changes and Economic Growth Trends

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Abstract

First: The research problem (converting numbers in English)

Despite the increase in public debt rates (internal and external) for the period 2010-2022, it did not lead to clear increases in economic growth resulting from the deepening of structural imbalances in the Iraqi economy, which prevented the transfer of the impact from the financial side to the real side of the national economy.

Second: The Importance of Research

The importance of the research lies in giving a clear picture of the nature and trends of public debt and the factors determining it and its impact on the direction of economic growth in the Iraqi economy and trying to find specific solutions to sustain economic growth through public debt and other variables.

Third: Research Objectives

1 Analysis of the relationship between public debt and economic growth in the Iraqi economy and analysis of the evolution of the structure of public debt in the Iraqi economy for the period (2010-2021).

2. Creating a scientific and logical explanation to measure the impact of public debt on economic growth in Iraq.

3. Studying the long-term and short-term relationships between public debt and the growth of the Iraqi economy.

Fourth: Research Hypothesis

Increasing the size of public debt leads to an increase in the rates of economic growth in the Iraqi economy, considering that an increase in the rates of public debt leads to an increase in financing growth and development and thus achieving economic and social welfare.

Fifth: Research Methodology

This research based on the nature of its variables relied on the inductive method and the deductive method by relying on data and information from the General Tax Authority and the Ministry of Finance, and the laws and instructions related to the practical aspect. In addition to using the method of economic measurement.

Sixth: Temporal and Spatial Limits

1. Spatial Limits: An Analysis of Public Debt Development and Gross Domestic Product in Iraq for the Period 2010-2022.

2. Time Limits: 2010-2022.

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Keywords: Public Debt, Economic Growth, Iraqi Economy, Internal Debt, Gross Domestic Product (GDP)

Introduction

One of the most important macroeconomic variables discussed by many schools and economic theories is public debt, as it poses a challenge not only in the size of the debt but also in raising the efficiency of the debt. Accordingly, many studies and workshops have been initiated to address the challenges of public debt and enhance its role in advancing economic development. Efficient public debt plays a key role in influencing economic variables, as public debt is one of the fiscal policy tools used to manage the

local economy, and it in turn affects the amount of liquidity within the national economy, investments, and price levels, in addition to the extent to which debt is viable or not depends on the extent to which debt contributes to economic growth rates, as well as the size of fiscal space. This study seeks to know the relationship between public debt and its impact on Iraqi economic growth and to know the channels of its impact on the joints of the economy in Iraq as a whole, which requires studying its dimensions and causes and how to overcome its challenges so that public debt is an important factor to drive economic growth rates in Iraq.

The first requirement / the concept of public religion and the theories interpreted for it.

The Concept of Public Debt

Underdeveloped economic systems, especially planned and developing, seek internal and external borrowing to finance growth and development. Public debt represents the set of obligations that a state has pledged and committed to fulfill by a particular country towards creditors, whether they are from inside or outside, and these debts result in several different obligations (Maiah, 2015: 3), and these may be the result of agreements concluded between governments, international organizations or institutions, or loans by foreign banks to the government of another country, to a private or public project, or to another bank in this country, called private debts.

They may be state-to-state loans. Some countries rely on the creation of government formations that are legally independent of the general budget in order to entrust these entities with some of the functions of public expenditure that they finance with loans that do not appear in the government debt schedules on the pretext that they are self-linked.

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Types of Public Debt

Domestic Domestic Public Debt

This type of debt arises as a result of the public authority obtaining financing from within the national territory, whether the lenders are natural or legal persons, and without regard to their different nationalities. This debt includes the total financial obligations of the State, as well as its public bodies and institutions, towards the components of the local economy. In particular, it refers to those sums that the State is obliged to repay to its citizens, when it adopts the method of internal borrowing through the issuance of debt instruments in the national Currency, which are subtracted for subscription within a country, and in which the residents of its territory from various individuals or economic entities participate. (Falah, 2014: 139) Internal debt is seen as a mechanism for redistributing financial resources within the borders of the state, as it does not entail an actual transfer of wealth abroad, but the state can meet its obligations arising from it through internal financial instruments, such as the imposition of some indirect taxes. This type of debt is also characterized by being denominated in the national currency, which reduces the risks associated with exchange rate fluctuations. The issuance of domestic debt instruments requires the existence of a number of economic conditions,

foremost of which is the existence of A surplus in the volume of savings that exceeds the needs of the domestic market, and exceeds the requirements for private investment financing. (Haidar, 2014: 13) ^[2]

External public debt

It is very important to differentiate between sovereign public debts and external debts of countries, because the effects on macroeconomic variables vary according to these debts and depend on the nature of the structure of each type of debt, as sovereign public debts are the debts of the state exclusively, whether they are external or internal debts or both, and external debts are the sum of sovereign public debts in addition to the external debts of the private sector (debts of banks, financial institutions and companies) (Jalil, 2013: 4) External debt is what a country owes towards foreign parties, which may be governments, international organizations, or foreign institutions (Falah, 2014: 139). External debt is also defined as nothing more than being a religion. An Accounting Question in the Context of Economic Relations However, the inequality in the economics of the two parties to the debt and the inefficiency of its management in the contemporary era has harmed the situation of foreign lending and the reputation of some debtor countries due to their inability to meet or service the debt within its time period. As this financing gap widens, the state is forced to seek sources of financing from outside the national territory by borrowing from people residing abroad, foreign governments, or international financial institutions. This type of debt is a financial obligation of the state and its public entities, and may also extend to some private units, and arises as a result of credit dealings with other countries and their financial institutions. It is worth noting that there is a clear difference between external debt and "externally owned" debt, as non-residents can own part of the domestic debt, as non-residents, especially the central banks of some countries, often buy a large amount of a country's treasury bills from the open market. Salem, 2002: 104.

Effects on Public Debt

The impact of any debt incurred by the state depends on how the state uses those debts, whether the state uses them to finance the growth process and accelerate the economy, or whether it uses them to finance unproductive projects that do not benefit the economy in any way. It is essential for any country to look for the implications of such debt when developing any of its development programmes, as it helps in predicting the crises that may occur and choosing the right time to avoid or address such a crisis if it occurs. (Hurriti, 2005: 158) ^[4]

Public debt can have positive or negative effects that affect the development process, and the negative effects lie in the political, economic and social fields, and can be explained as follows: (Mohammed, 2013: 89)

Political implications

The creditor countries work to use these debts to control the debtor countries and control them with their resources and affect the authority and sovereignty of the state, so the state is exposed to external intervention from the International Monetary Fund through its own reform program, but most of the countries that followed these programs increased their indebtedness instead of alleviating it and solving the deficit in their budget.

Economic Impacts

1. Public debt directly or indirectly affects the saving process in most developing countries.
2. Public debt depletes the state's financial resources, making it unable to produce and not having the means, so it becomes increasingly dependent on the outside world to obtain its needs for goods and services, which leads to an increase in imports at the expense of exports, and creates a deficit in the trade balance.
3. One of the economic effects of the public debt is the problem of the exchange rate, as the state obtains a loan at a certain exchange rate and repays it at another exchange rate, which increases the burden of servicing the public debt.

Social Effects

It is represented that countries get the debt at one time and pay it back at another time, and if they use it in productive projects, it will increase the welfare of future generations, but if they use it in consumer projects, and most developing countries do so, it will reduce the welfare of future generations and burden them as a result of the increase in taxes incurred on them.

Public Debt from the Perspective of Economic Schools Classical Theory

Adam Smith took a critical stance on public debt, based on his perception of the role of the state within the classical framework, where he believed that government spending does not achieve a productive economic return, as long as it is limited to the limited functions of maintaining security and defense, preserving rights, and consolidating the rule of law. He also considered that the state's intervention in economic affairs should be limited to creating the appropriate conditions for the functioning of markets and ensuring the unhindered flow of economic activity. In light of this concept, it was common in classical economic thought at the time to characterize the public sector as an area of resource waste. As a result, government borrowing has been seen as crowding out private savings and diverting it away from the path of capital accumulation, limiting the economy's chances of growth and growth. This is the well-known view of Adam Smith, who limits the productive character to the labor that generates tangible and interchangeable things, which is a property of commodity production, without negating the necessity of government services. Adam Smith warned of a public debt that would destroy the great European nations, and David Hume is no different. Smith's analysis of debt relates to taxes, unsuitable for industry and commercial prosperity, to serve him. He demanded that the debt be reduced to zero, and during his tenure it was less than half of what it later reached. In particular, he was not convinced of the perpetual debt of Perpetual, which never extinguished and allowed the holder to have continuous returns in perpetuity. But he thinks it appropriate for the state to resort to wartime borrowing so that industry is not burdened with taxes, and it can raise a lot of money through perpetual bonds with a small annual expenditure. On the other hand, he argues that financing the war with taxes is better than debt because the private sector is less willing to invest in wartime. In other words, wartime taxes do not waste many opportunities for the economy to accumulate. One of the reasons for his negative view of the public debt is that a channel for transferring money from taxpayers, industrialists and merchants, to

creditors whom he describes as unwilling to contribute to productive accumulation. Adam Smith is remembered for his attention to facts and experiences, and the judgments were not only logically desirable, but also through his understanding of history and economics in his time. (Saeed, 2011: 164-165)

Keynesian theory

With the beginning of Keynesianism, a new conception of public debt emerged in line with a different role of public expenditures and its sources of financing, described as functional public finance, i.e., tasks that have been entrusted to it beyond the financing of public services to stability, employment, and public debt, as well as being an accidental result of increasing spending to ensure full use, which does not entail serious problems in public debt, and public debt is not the same as private debt because it belongs to the people of the state itself and is not a debt to it on the other hand. Public debt does not detract from wealth, and the debt-servicing expenses paid by future generations are not a deduction from their incomes but transfers within the same generation. Lerner went so far as to say that even interest payments can be borrowed and even that a tax is not necessary until the interest payments are substantial. It means continuing to recycle debt and borrow. Interest payments down to the maximum. There is no doubt that the size of the debt and the interest payments must have a ceiling and fiscal discipline is indispensable, otherwise the monetary system cannot be sustained, but Lerner wanted to undermine the foundations of the old thinking in a conservative society, and the accumulation of government debt in the private sector leads to a growing impact of wealth on consumption, and thus the tendency to save from income decreases, which is positive for them, raising the independent expenditure multiplier. Full utilization is achieved, and then the size of the public debt is equilibrium (Abu Al-Nasr, 2024: 321).

Critical Theory

This theory was developed by the economist Milton Friedman. This theory is based on limiting the role of the state in economic activity and believes that the main reason for the public budget deficit is the state's intervention in economic activity, which caused a crisis of depression and a deterioration in economic growth accompanied by inflation. Consequently, it is opposed to the intervention of the state in economic activity by means of borrowing. It believes that the state's intervention in economic activity may lead to an increase in the budget deficit, the appearance of stagnant inflation, and the lack of optimal exploitation of economic resources. And if it has been successfully applied in developed countries, and it cannot be generalized to developing countries that suffer from a low level of income and savings, and therefore capital is unable to implement development projects.

Functions of Public Debt

Three main functions of public debt can be identified:

1. The function of stability: It is the responsibility of the state to achieve economic balance, especially during periods of crises to which the country is exposed, as in these circumstances the public budget is not required to be balanced. Accordingly, fiscal policy plays an active role in supporting economic growth and reducing government debt by rationalizing public spending, which

contributes to the emergence of indicators of recovery and economic recovery (Al-Fatlawi Al-Moussawi, 2019: 273) ^[23].

2. **B- Empowerment Function:** It means the pursuit of tax empowerment, as the harmony of economic policies is a prerequisite for encouraging investment activity in order to promote growth and job creation. The importance of this function in the formulation of tax policy in the long term, leading to the creation of a climate of trust that enables entrepreneurs to plan and make long-term investment decisions on a clear and stable basis (Al-Fatlawi Al-Moussawi, 2019: 273) ^[23].
3. **Burden-sharing function:** It is achieved when public expenditures in the present lead to benefits for both present and future generations, allowing for the distribution of tax burdens between generations. This function includes in particular public investments that lead to raising the efficiency of the economy and improving its productive capacity in the long term (Al-Fatlawi Al-Moussawi, 2019: 273) ^[23].

The second requirement

The concept of economic growth

Raymond Barr (2000: 60) believes that economic growth is represented by an increase in the size of available wealth and the number of population, while François Perrault argues that the concept of growth expresses the achievement of an increase over a certain period of time or over extended periods of time in one of the positive indicators within a country. Pa Samuelson considers the real GDP to be the main indicator for measuring economic growth, due to the ease of availability and accessibility of its data Comment. Accordingly, economic growth is defined as the relative increase in net national product. He also believes that economic growth is achieved through a continuous increase in real average per capita income over time, and average per capita income means dividing the gross national income by the population.

According to Medhat (2007: 206), economic growth is represented by an increase in GDP or gross national income, which leads to an increase in the average real income per capita.

Determinants of Economic Growth

1. **Human resources:** Human resources are one of the main pillars that stimulate economic growth, as their size and quality are directly reflected in the performance of the economy. The efficiency of these resources is determined by a number of characteristics, foremost of which is the ability to innovate, the level of education, qualification and training, as well as the possession of the necessary skills. In the event of a shortage of qualified human resources, this would hinder the path of economic growth and limit its development.
2. **Natural resources:** Natural resources represent one of the main factors affecting the achievement of economic growth at the state level, as it includes all the resources available on the surface or in the earth's interior, such as plant and water resources. In addition to esoteric riches such as oil, gas, and minerals. The abundance and diversity of these resources varies from country to country depending on different environmental and climatic conditions.
3. **Capital:** means the sum of the goods and means produced

by human industrial activities, including the various material elements of production, such as machinery and equipment, means of transportation, and energy sources, as well as land as a component of productive capital.

4. **Technological development:** It is one of the essential factors affecting economic growth, as it is based on the adoption of modern technologies in production processes and the application of advanced scientific methods. Technology is defined as the nature and level of the technical tools used, and the extent to which they are related to a certain percentage of the workforce in the production process.
5. **Social and political factors:** These factors represent a supportive framework for economic growth in countries, where social factors include the system of values, customs, traditions, and beliefs prevailing in society, while political factors are represented in the role of the government in formulating and implementing public policies, in order to create the appropriate environment to achieve economic development (Abdullah, 2004: p. 33).

Second, the importance of economic growth

The importance of economic growth is highlighted in the following: (Emad El-Din, 2008: p. 50)

1. **Improving the country's economy :** Economic growth in the country improves the economic situation in the country and contributes to increasing the share of individuals in the GDP.
2. **2- Improving the standard of living:** Economic growth helps to improve the standard of living of individuals in the country as well as provide a decent and luxurious life for citizens.
3. **Improving the state budget:** Economic growth leads to a reduction in the state budget deficit. Through growth to improve future fiscal outlook, and reduce the future state budget deficit.
4. **Improving the type and quantity of goods and services:** This process contributes to providing capital to improve the services provided by the state to citizens, such as services in health care, education, social services, and public services.

The Third Demand : The Relationship between Public Debt and Economic Growth

Public debt is one of the important sources of revenues according to modern economic thought, but resorting to it requires a high degree of caution, given its general effects and the weight of its burdens on the national economy, as it is seen as one of the tools of economic guidance. Public debt, by its very nature, has different effects, which may be expansionary, deflationary, or inflationary, depending on the role it plays in economic activity. The factors affecting this can be summarized mainly as follows:

1. **The technical organization of the public debt,** in terms of its size, duration, and the mechanisms adopted for its consumption.
2. **The level of national income.**
3. **The nature of the public expenditures financed through these debts,** and whether they are directed to the state's consumption expenditure or to productive expenditure (Al-Mudallala, Al-Ajla, 2013: 274).

Theoretical explanations for the potential negative growth effects of public debt focus primarily on the fiscal deficit and

trade between the short-term positive effects, particularly in light of a gap in production and relative stability in prices and wages, and the long-term negative effects. The long-term slowdown in growth is due to a change in market participants' expectations of high levels of public debt, leading to a decline in national savings, higher interest rates, and a decline in the volume of investment, as well as about the increase in risk premiums. As a result, economic uncertainty is rising, and fiscal flexibility for productive government spending is shrinking, which is reflected negatively on growth rates. These negative effects are likely to increase as public debt levels rise, owing to growing uncertainty about its future effects on economic growth.

The impact of public debt on the economy is largely determined by its size to GDP ratio, as the higher this ratio, the more the relationship between public debt and economic growth appears in the form of an inverted U-shaped graph. This relationship indicates that relatively low levels of debt-to-GDP ratio may have a positive impact on growth, while the marginal effect turns negative when levels above this ratio are exceeded. Studies have not been able to identify the exact tipping point at which this negative effect begins to appear. According to economic theory, a large rise in public debt often has negative effects on the economy, and one explanation for this is that it may contribute to higher inflation rates and its consequences. However, experience in recent years has shown that there have been instances where high levels of public debt in some countries have not led to significant inflationary pressures.

Second Topic

Analysis of the Development of Domestic Public Debt and Economic Growth in Iraq for the Period 2010-2022

A brief overview of the Iraqi economy

Iraq's economy has been characterized by a number of key characteristics, particularly in the post-2010 period, when there were clear features of widespread macroeconomic imbalances. These imbalances have manifested themselves in the emergence of significant structural distortions, in addition to a general decline in the level of GDP, as well as a marked increase in the contribution of oil production to GDP, in contrast to the decline in the contribution of other economic sectors, reflecting the nature of the unilateral economy. Besides, several other features have emerged that will be addressed and described as follows (Attia, 2020: 22) ^[19]

1. Economic growth in Iraq cannot be isolated from oil as oil revenues are the main financier of various economic activities, and therefore they are the main driver of the growth of other (non-oil) economic activities, because development plans in Iraq have relied on oil revenues to finance them, which has resulted in many internal and external economic challenges. This reliance on oil revenues in financing the budget and the economy leaves behind a number of structural challenges and imbalances that hinder the country's chances of achieving sustainable economic development, and increase the infiltration of global economic risks to the country through the oil revenue channel (Khawla, 2019: 98) ^[20].

2. In the Iraqi economy, the general budget is used to achieve the government's economic goals by directing government spending towards public services, enhancing infrastructure, and raising the living level of the various segments of society, thus government expenditures are the main engine for all economic sectors, generating job opportunities, achieving economic growth and stability, i.e. the budget suffers from imbalance and instability in both revenue aspects. Expenditure is due to a number of factors, foremost of which is the dominance of the oil resource and its fluctuations on the trends of revenue and public spending, as well as the depth of the imbalance that the real economy suffers from (Mohammed, 2018: 76).
3. The spread of financial and administrative corruption in most state institutions is one of the most severe crises in the Iraqi economy and a major cause of the waste of public funds and the waste of public treasury revenues, and this hinders development, weakens the performance of economic sectors, and undermines economic growth (Al-Khafaji, 2020: 64) ^[16, 21].
4. The oil sector does not use labor-intensive because the crude oil extraction industry is a technologically intensive industry, which leaves the vast majority of workers looking for their strength in other low-productivity and low-wage economic activities, which is reflected in the increasing unemployment rates.
5. The Iraqi government has obtained, through the export of crude oil, large financial revenues, which makes it indispensable to impose duties and taxes on the people in order to find resources to finance them.
6. The Iraqi economy is characterized by a one-sided rentier nature, as it depends almost entirely on the financial revenues derived from the export of crude oil, without paying sufficient attention to its processing processes and converting it into oil derivatives, which forces the state to import these products at high financial costs. The rentier economy is one of the main factors causing economic backwardness and the recurrence of financial crises, as it is based on the dependence of national income on a single source, so that any disruption or imbalance that affects this source is directly reflected in the form of economic imbalances and heavy financial losses borne by the dependent state.

Analysis of Public Debt Development and Overall Growth in Iraq for the Period 2010-2022

There is no doubt that the shortfall in public revenues to face public expenditures leads at best to the emergence of a deficit in the general budget of the state, and Iraq was one of the countries with financial abundance, especially after the rise in oil prices in the seventies of the last century, as well as its needs for foreign currency, but the matter did not last long, as the wars overshadowed many features of the Iraqi economy, as it came out shackled by foreign and domestic debts, and the table shows the path of developing the volume of the domestic public debt in Iraq. For the period from (2010-2022) million dinars

Table 1:

Annual Change %	Total public debt	Year
----	72539794	2010
-11.87	63926712	2011
- 9.14	58083553	2012
- 8.93	52894382	2013
+11.45	58952641	2014
+38.28	81520011	2015
+ 17.36	95674539	2016
+ 21.09	115850658	2017
- 25.43	86388441	2018
+ 48.33	128143905	2019
+40.27	179744352	2020
+17.52	226143504	2021
-4.70	890227335	2022

Table (1) indicates that the public debt was fluctuating throughout the study period, reaching 365312.71 billion dinars in 2010, where debts accumulated

Analysis of trends in the development of public debt (2010–2020)

The table above shows the evolution of total public debt over the period (2010–2022), with annual rates of change accurately calculated, which allows for understanding the general trends of debt and linking them to prevailing economic and financial conditions.

First: The Phase of Relative Decline (2011-2013)

The data indicate that negative rates of change were recorded during the years 2011, 2012 and 2013, where the rate of change was as follows:

- 11.87% في 2011
- 9.14% في 2012
- 8.93% في 2013

This downward trend reflects a relative improvement in the financial situation, due to:

- Higher public revenues, especially oil revenues
- Improving the ability of the State to finance expenditure without resorting to excessive borrowing
- Adopt more conservative fiscal policies during this phase

Second: Transition and Sharp Rise Phase (2014–2017)

Starting in 2014, the trend changed clearly, with the public debt rising by 11.46%, then jumping significantly in 2015 by 38.28%.

This shift is due to:

- Sharp decline in global oil prices
- Widening budget deficit
- The government's recourse to internal and external borrowing to finance current and investment expenditures

This upward trend continued in 2016 and 2017, at rates of 17.36% and 21.09%, respectively, reflecting the increasing reliance on debt as a major financing instrument.

Third: Temporary decline in 2018

The year 2018 recorded a significant decrease in the total

public debt by -25.43%, and this is explained by:

- Oil prices improve
- Higher public revenues
- The government's attempt to reduce borrowing levels and reorganize financial obligations

This year marks a temporary break in the debt's upward trajectory.

Record Rise in 2019–2020

Public debt returned sharply in 2019 and 2020, with the rate of change reaching:

- 48.33% في 2019
- 40.27% في 2020

This is the highest increase during the study period, and is related to:

- Significant expansion of public spending
- Economic and financial crises
- The repercussions of economic shocks and instability
- Widespread reliance on borrowing to bridge the revenue gap

Analytical Conclusion

It can be said that public debt during the study period was characterized by instability and high volatility, as it was directly affected by economic conditions, oil prices, and fiscal policies. The analysis also shows that periods of improvement have been temporary, while the overall trend tends to rise, necessitating the need for more sustainable fiscal policies in the future

Requirement 2 - Analysis of the Development of Public Debt and GDP in Iraq for the Period 2010-2022

The index of the ratio of public debt to GDP is an important indicator, as it is assumed that the increase in public debt must be accompanied by growth in GDP, as it reflects the percentage of resources available to service the debt through the extent to which these resources are used in the production of local goods and then processed in the service of export production, and the following table (1) shows the development of the volume of domestic debt in Iraq for the period from (2010-2022) million dinars

Table 2:

Annual Growth Rate of Domestic Public Debt %	GDP	Year
	162064565.5	2010
34.1%	217327107.4	2011
17.0%	254225490.7	2012
7.6%	273587529.2	2013
- 2.7%	266332655.1	2014
- 26.9%	194680971.8	2015
1.2%	196924141.7	2016
12.6%	221665709.5	2017
21.3%	268918874.0	2018
2.7%	276157867.6	2019
21.9% -	215661516.5	2020
39.6%	301152818.8	2021

It can be seen from the table that GDP witnessed clear fluctuations during the study period, as it achieved high growth rates in some years, such as 2011 and 2021, as a result of the improvement in oil prices and the increase in oil revenues, while negative growth rates were recorded in other years such as 2015 and 2020 as a result of economic shocks, low oil prices, and the exceptional circumstances that the economy went through. This reflects the rentier nature of the economy and its heavy dependence on the oil sector

Measuring the impact of domestic public debt on economic growth in Iraq for the period from 2010 to 2022

Mathematical formula of the model

Model

Simple linear regression was used:

$$\beta X_1 + Y = \alpha$$

Estimating the Relationship between Domestic Public Debt and Gross Domestic Product (GDP) according to Economic Theory

Public debt has an important impact on the economy in the short and long term. The traditional view is that public debt can stimulate aggregate demand and production in the short term, but it crowds capital and reduces production in the long run. Some studies have focused on the long-term effects of

public debt. There are many channels through which high debt can negatively impact economic growth. High public debt can negatively impact capital accumulation and growth through higher long-term interest rates, higher future taxes, higher inflation, and increased uncertainty about outlook and policy. In more serious cases, sovereign debt rises to levels that trigger a financial, banking, or currency crisis. Some recent studies by Reinhart and Rogoff (2010) that examine economic growth and inflation according to different levels of government debt in advanced and emerging economies on a long-term basis suggest that an increase in government debt slows economic growth. In general, financing the budget deficit through government borrowing will affect economic activity by reducing public savings, and accordingly the net national savings will decrease, which will push the interest rate up, leading to a decrease in the volume of investment. It is accompanied by a slowdown in the process of capital accumulation and a consequent decline in productivity, which causes a decline in economic growth.

Based on the above, Table () shows the results of the simple linear regression to show the effect of the domestic public debt on the exchange rates of the Iraqi Dinar during the research period, as the statistical program (EViews 13) was used.

Table 3: Analysis of the regression relationship between domestic public debt and GDP

Dependent Variable: GDP				
Method: Least Squares				
Date: 27/4/24 Time: 19:03				
Sample: 2010 2022				
Included observations: 13				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	138.764	42.28759	34.81474	0.0000
PD	-1.86E-06	6.84E-07	-7.347962	0.0004
R-squared	0.227674	Mean dependent var		1261.882
Adjusted R-squared	0.380519	S.D. dependent var		102.1457
S.E. of regression	80.80974	Akaike info criterion		11.70730
Sum squared resid	95523.92	Schwarz criterion		11.80532
Log likelihood	-97.50204	Hannan-Quinn criter.		11.71704
F-statistic	12.22875	Durbin-Watson stat		0.623828
Prob(F-statistic)	0.004304			

Source : Data extracted from the statistical program (EViews 13).

If the domestic public debt increases by one unit, the GDP will decrease by (1.86)

The calculated t-value of the domestic public debt was (-7.34), which is a significant value, because the probability value is less than (0.05), which indicates the significance of the domestic public debt parameter and evidence of the inverse relationship between it and the GDP.

It is clear through the statistics (F) that the model is generally significant as it reached (12.22), which is a significant value, because the probability is less than (0.05), and therefore we find that the estimated model is significant overall.

The coefficient of determination (R-Sq) was (0.22), which means that the domestic public debt explains (22%) of the changes in GDP, while the remaining percentage of (78%) is due to other variables that were not included in the model, and therefore falls within the random error paragraph.

The estimated model does not suffer from the problem of self-correlation between the independent variables, because the (D-W) statistic, which is (0.62), falls between the minimum and the maximum of (0.77) and the maximum of (1.05), i.e., it is located in the area of indecisiveness, which depends on the researcher's opinion, and by observing the estimated equation, we find that the gross domestic product is a function of the domestic public debt, and this is in line with the logic of the economic theory, as well as for the signal of the estimated parameter, we observe it as inverse and logically consistent. Economic Theory.

Conclusions

1. The Iraqi government's reliance on public borrowing to finance the public budget deficit throughout the 2010-2022 research period, which was evident through the high ratio of internal public debt to finance the deficit to cover current expenditures in 2022.
2. Public debt may have adverse effects on private investment as a result of the rise in market interest rates and the curbing of private spending in both the investment and consumer sectors, leading to the cancellation of the stimulus effect of government spending or tax cuts.
3. In light of the free movement of capital and the flexibility of the exchange rate, government borrowing leads to an increase in the interest rate and the exchange rate, thus weakening the country's competitiveness, which ultimately leads to a decline in net exports and the cancellation of the positive impact of government expansion through public borrowing.
4. The results of the standard analysis showed an inverse relationship with the GDP variable, and the model was statistically significant, which confirms the negative role that the domestic public debt plays on the GDP in Iraq during the period 2010-2022. Due to the increase in internal and external government debts, due to the fluctuations in oil prices during the study years, led to an increase in payments of public debt installments and interest at the expense of financing development and investment projects that promote economic growth.
5. Domestic public debt accounts for 22% of the changes in GDP, while the remaining 78% is due to other factors outside the research model.
6. The model, according to the standard results, is generally significant.
7. The independent variable regression coefficient (domestic public debt) is significant.

Recommendations

1. The need to focus government efforts on restoring non-oil economic activities and raising their production efficiency, which leads to raising the percentage of their contribution to the formation of GDP, on the other hand, gives an addition to maximizing the government's public revenues.
2. The Iraqi government should exploit loans, especially foreign loans, for investments that are productive, whether in the production of productive goods or consumer goods, which is reflected in the balance of payments aspect, whether for production for the export of goods other than oil commodities, or for the production of goods that compete with imports at home.
3. Monitoring internal and external debt and preventing it from exceeding certain levels, linking internal and external debts to investment projects that generate values and wealth and not using them for consumption purposes or for operational purposes of the budget mainly, with the need to plan for the establishment of a sovereign debt fund financed by the abundance of future financial surplus in order to finance the interest and installments of the public debt instead of the pressures exerted by interest and installments on public expenditure and crowding out construction and reconstruction projects. (10) One trillion dinars under public expenditures.
4. Accelerating the adoption of the Iraq Sovereign Fund Law to be a financial buffer that finances the necessary expenses in the event of a decline in oil revenues, instead of raising the exchange rate or raising the borrowing ceiling and the consequent accumulation of public debt and an increase in the burden of debt installments and interest.

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