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# **The Impact of The Digital Economy on Achieving The Efficiency of The General Budget: A Study in Reforming The Iraqi Economy**

*Dampak Ekonomi Digital dalam Mencapai Efisiensi Anggaran Umum: Sebuah Studi tentang Reformasi Ekonomi Irak*

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## **Abstract**

The Iraqi economy operates with a large number of variables and seeks through them to achieve economic goals of economic growth, full employment, economic stability, reducing inflation and other goals, and this is done through macroeconomic policies, monetary and financial. The problem for the budget system is embodied in the urgent need for reform and development that includes the preparation and implementation of a model budget in a way that can enhance the ability and resilience of the financial and economic system to confront economic crises in a technologically advanced environment, where technological development is represented by the digital economy as a transformative force, embodying the convergence of technology and the Internet in shaping a new scene of economic activity, which includes a wide network of companies, institutions and individuals who use digital technologies and the Internet to create, exchange and consume goods, services and information. The digital economy is essentially based on data as the blood that feeds innovation and decision-making trends

### **Highlights:**

Iraqi economy aims for growth via macroeconomic, monetary, and financial policies.  
Budget reform crucial for resilience in a tech-driven, digital economy.  
Data fuels innovation, shaping decision-making in economic activities.

**Keywords:** Digital economy, General Budget, Efficiency, Iraqi Economy

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## Introduction

Iraq has always been a sustainable market throughout its rich history, attracting traders from all over the Middle East for countless centuries. This historical legacy has contributed to establishing Iraq as a vital center for trade, culture and exchange of ideas in the region. Located at the intersection of Asia, Europe and Africa, Iraq's strategic geographic location, coupled with its abundant natural resources, opens up a wealth of economic opportunities. Iraq is now using the capabilities of the digital age, establishing itself as a significant contributor to the expansion of the digital economy in the area. The digital economy, an ever-evolving commercial environment marked by technical innovation and extensive utilization of digital solutions, has emerged as a worldwide phenomenon that is transforming how nations approach the growth of their financial systems. This transformative drive is not limited to a single industry or sector, but extends to a diverse range of areas including financial services, healthcare, education and entertainment. The federal budget of the state is the main tool for implementing its economic and financial policy. It determines how to obtain revenues and how to use them to ensure the regulation of government spending and the optimal utilization of financial resources. The traditional budget system (item budget) depends on approving spending without paying attention to the actual output results (goods and services) and the resulting effects, which results in weakness in accountability for effectiveness in implementation, and not granting managers sufficient flexibility and authority to benefit from their capabilities and potential in development and modernization, which makes its use as a spending tool and not a management tool. In the face of these challenges, the traditional method of preparing the budget has become incompatible with the functions of the modern state budget, nor with the objectives of planning, which has forced many countries in the world to shift from this method of item budgeting to new methods and reforms that improve the state's general budget.

## Methods

The research problem is evident in how to manage the federal budget of the state in the weakness of its awareness of the importance of improving the reality of financial activity and its urgent need for a comprehensive reform process that ensures the integrity of the strategy of the financial authority in a way that enables it to optimally lead the financial system of the country. Therefore, the weakness of the financial activity of the state stems from internal reasons and factors related to the performance of the federal budget of the state as it is the most important part of the financial and economic system. Therefore, the problem is embodied in the budget system through the urgent need for reform and development that includes the preparation and implementation of a model budget that can enhance the ability and strength of the financial and economic system to confront economic crises. Accordingly, the research problem can be identified by answering the following question (What is the proposed framework or model for the process of preparing the performance budget in light of the technological and economic variables in Iraq?)

### Objectives

- To reveal the extent of the possibility of benefiting from the application of principles and scientific rules in preparing the federal budget, which would ensure the optimal allocation and investment of the state's financial resources and achieve the best performance at the lowest possible cost, whether related to the administrative and accounting aspects and reducing the waste of public money.

- Knowing the impact of applying the performance budget preparation in the Ministry of Finance according to scientific and practical standards and foundations, and thus knowing the extent of the possibility of applying it in all state institutions.

4.Hypotheses: The research hypothesis was formulated as follows: (The digital development of the economy affects the reform of the state's general budget).

## Result and Discussion

### Theoretical Logic and Mechanism Analysis:

#### Digital Economy:

The digital economy is characterized by the ongoing interaction, integration, and coordination between information technology and communications technology, alongside the national, sectorial, and international economy, facilitating transparency, immediacy, and accessibility of economic indicators that underpin all economic, commercial, and financial decisions within a specified timeframe. Information technology has a pivotal function in enhancing economic growth rates and transforming economic, commercial, and financial systems. (Zhao et al, 2023: 2379).

The digital economy encompasses various economic activities that utilize digital information and knowledge as a primary production factor, modern information networks as significant venues for activity, and the efficient



application of information and communications technology as a crucial catalyst for productivity enhancement and economic restructuring. (Sun et al, 2022: 11). The digital economy is seeing significant development, swift innovation, and extensive applicability across several economic sectors. It is a crucial catalyst for global economic growth, significantly contributing to economic development, boosting productivity, and facilitating comprehensive and sustainable advancement. (Chen et al, 2022: 13).

A.Characteristics of the digital economy:

- The success and expansion of the digital economy relies on the accessibility of information sources for individuals and organizations to engage in information networks and diverse websites. Successful engagement in that network and the digital economy necessitates the presence of infrastructure within the economy, including electrical grids and other networks. (Zhang, 2021, 12)
- Competition and market structure within the digital economy: The digital economy encompasses information technology, communications, e-commerce, e-delivery services, software, and information. They vary based on the magnitude of economic transactions, specialization, economic resources, economic sectors, and components of gross domestic product.
- The future of macroeconomics in the digital economy: Information technology is essential for enhancing economic growth rates, capital investments, and both internal and external e-commerce, while the Internet influences commercial transaction procedures and work practices. (Pang et al, 2023: 23).

B.The role of the digital economy in providing information for decision-making:

The management of information may be optimized through its strategic use in economic decision-making and policy formulation. The digital economy facilitates information acquisition by discerning suitable sources of essential data, so optimizing the management of incoming and outgoing information with enhanced efficiency and effectiveness. (Altig et al, 2020: 231).

- Electronic information, including e-mail, the Internet, materials recorded on video tapes, and information on hard or floppy disks.
- Spoken information, such as telephone calls and dialogues.
- Printed information, such as reports and faxes.
- Technological forecasts.

The digital economy provides ideal information in terms of modernity, efficiency, importance, accuracy, and the possibility of verifying its accuracy, and the digital economy achieves sovereignty in convincing others and supporting decisions.

C.Digital economy mechanisms:

Economic information takes different forms in the digital economy, it may be in the form of words, sounds or illustrative forms, all of which may be digital or non-digital: Analogue information means information on magnetic tapes or films, which cannot be stored in electronic computers or converted (Boylan et al, 2021: 765), while concentrated magnetic tapes or CDs take digital forms where they can be converted between electronic computers, specifically tapes and traditional means of exchanging information have been converted to the digital method, disks and floppy disks (Leach et al, 2021: 142), so digital information can be exchanged between information centers and electronic computers in the event that these computers are supported by phones and satellites, and it is also known that digital information can be stored and retrieved, in addition to the use of digital electronic cameras and document imaging devices Scanner until access to the Internet (Kumar et al, 2020: 32):

- Therefore, the digital economy is considered the result of the interaction between the trends of progress in information and communication technology And between the economic system (macroeconomics - microeconomics and the economy of specific sectors in industry, agriculture, trade, banking, finance, health, education, international economic relations, monetary policies, financial policies, etc).
- The digital economy helps in knowing the impact of the economy on society and diagnosing economic problems in terms of causes and results and contributing to proposing ideal and scientific economic solutions.
- The digital economy affects the various branches of the economy by linking economic models + software + the Internet to achieve Optimization.

D.Elements involved in shaping the digital economy: There are many elements that affect the new economy and play a vital role in shaping it, such as: modern technology, globalization, environmental protection movements, and others. We will discuss four main forces that affect determining the shape of the new digital age: (Ntasis et al,



2021: 68)

- Supporting infrastructure.
- The emergence of the Internet.
- New types and patterns of intermediaries.
- Detailing marketing offers by Customization and preferring marketing offers by Customization.

General Budget:

A-The concept of the general budget includes two pillars:

• It is an estimate: It is represented by estimating the numbers of amounts expected to be obtained from various sources of public revenues, and it is also represented by estimating the numbers expected to be spent during a future period. It is a probable estimate of the state's expenditures and revenues, and the numbers estimated in it are subject to increase and decrease because they are allocated for the future and the accuracy of these numbers cannot be confirmed. (Shen et al, 2022: 659)

• It is a license from the legislative authority: The license means that the legislative authority or the authority authorized to legislate is ratified on the draft budget submitted by the government. With this approval, the project becomes a law that authorizes the government to spend expenses and collect revenues. It is worth noting that the content of the approval differs, as with regard to expenses, it gives the government the right to spend the same amounts or less or not to do so, while the approval for revenues is obligatory to collect according to the texts of the laws regulating taxes, or according to the government's practice of its economic activity .

• its revenues from the public sector (Sama et al, 2022: 541), defined as plans that help link long-term goals with short-term activities through the accurate distribution of work and resources available to the economic unit (Rozanova, 2021: 67).

The general budget represents a financial plan for the state that includes estimates of public expenditures and revenues for a future period of time, prepared by the executive authority, and approved by the legislative authority to be executable. (Wu et al, 2022: 7).

On the other hand, the budget is an embodiment of the government's approach, philosophy and vision towards the financial situation and status, and represents a comprehensive strategy embodied in the form of numbers, goals, objectives, activities, programs and directions of public activities in all fields, and it is a quantitative expression of plans proposed by the government, working to allocate the necessary amounts for these plans to be implementable (Peron et al, 2022: 1344) We infer from the previous definitions that: (Simonetto et al, 2021: 648):

- The budget is a tool for control by following up on the actual implementation with the plan and that it reveals deviations.
- The budget reflects the nature of the economic and social system and the policies pursued by the state to achieve prosperity, economic growth and social justice.
- The budget is not only an accounting tool that is concerned with accounting balance, but it is also a tool for achieving the desired economic and social balance.

B-Characteristics of the general budget: It consists of the following: (Li et al, 2022: 129)

• The general budget is an estimated document: The budget is an estimated document, characterized by uncertainty, even if its preparation is based on objective elements because it contains estimated data about a future period that does not require implementation until it is confirmed that it has been achieved, and the reason for this is due to uncertainty.

• The general budget is a document that helps decision-making: The budget is a basis for decision-making for institutional officials, as their decisions are based primarily on budget data, and due to the nature and features of the information it contains, which allows the expression of capabilities and resources in an easy, expressive and simple manner.

• The overall budget is aligned with the state's objectives: The budget exerts economic, social, and political impacts on the state. The general budget represents the government's overarching program that embodies the state's priorities and objectives. The concept of a budget is insufficient when described only as an estimate of expenditures and income. It is essential to highlight the budget's significant significance in enabling the state to fulfill its many tasks and execute its economic, social, and political agendas. The budget is a reflection of the state's programs and the translation of its financial policy into numbers.

•The general budget is a basis for monitoring performance: The budget expresses a program or analysis of an organization's work plan for a specific period of time, and thus is considered a tool for monitoring performance by measuring the size and percentage of what has been achieved from programs and comparing what was planned with what has actually been achieved.

## 6.The reality of the Iraqi economy 2000-2020:

.3 The Iraqi economy functions with several factors and aims to attain objectives such as economic development, full employment, economic stability, and inflation reduction, among others. This is accomplished by macroeconomic, monetary, and financial policy. Since the 1940s, several experts have examined the Iraqi economy, emphasizing gross domestic product as the primary metric. The gross domestic output of Iraq was approximated from 1950 to 2000 using 1980 dollar fixed pricing. In 1980, Iraq's gross domestic product was 53.9 billion dollars, which declined to 26.9 billion dollars by 1989, and further plummeted to 6.5 billion dollars in 1994; nonetheless, Iraq thereafter entered the oil era. In exchange for food and medication, implemented since early 1996, there has been a significant increase in the gross domestic product, reaching \$46 billion by the end of the 1990s, despite elevated inflation rates. (Ali, 2018: 23) Various studies assessed Iraq's gross domestic product at \$10.8 billion in 1996, subsequently increasing to \$31.8 billion in 2000 following the memorandum of understanding on food and medicine, then declining to \$26.1 billion in 2002. Other estimates indicated a GDP of \$9.2 billion in 1996, rising to \$14.8 billion in 2002. Notwithstanding these estimations, the lack of official data and information from the relevant governmental systems renders them susceptible to significant margins of error and inaccuracies in estimating and measurement. (Central Organization for Statistics and Information Technology, 2020)

The International Monetary Fund's predictions from 2013 to 2016 were significantly inaccurate, as they relied on erroneous forecasts of oil prices, which were estimated to be between \$50 and \$60 per barrel, whereas actual prices fell to their lowest levels in over 12 years, ranging from \$20 to \$30 per barrel. It may be concluded that the projections after 2015 were insufficiently precise, resulting in increased embarrassment for the Iraqi government over its obligations. The table presented these indicators and their variations from 2004 to 2020. During the period from 2005 to 2016, GDP and per capita GDP exhibited analogous trends, particularly in 2014 and 2015, persisting until 2016. However, significant disparities in the data, including GDP, are evident, compounded by the inaccurate forecasts of the International Monetary Fund. These forecasts, which pertained to the years 2016-2020, were predicated on anticipated oil prices of approximately \$50-60, yet actual prices plummeted to around \$30, further declining in the initial two months of 2016, generally fluctuating between \$20-30. This discrepancy underscores the erroneous nature of the Fund's predictions, which extended to revenues, expenditures, GDP, and other metrics. (Ali, 2018: 25)

By analyzing the results of the general budget and the impact of the digital economy on it for the year 2020-2021, as in the table

Variable	N	Mean	Std. Dev.	Min	Max
INDUST1	280	1.410	0.745	0.665	4.244
2020	40	2.350	0.122	2.132	2.988
2021	40	2.435	0.114	2.259	2.714
INDUST2	280	0.170	0.115	0.008	0.765
2020	40	0.216	0.141	0.021	0.665
2021	40	0.109	0.076	0.008	0.483
DIGITAL	280	0.170	0.115	0.008	0.765
2020	40	0.216	0.141	0.021	0.765
2021	40	0.109	0.076	0.008	0.483
CAPITAL	280	0.816	0.152	0.446	1.692
LABOR	40	0.021	0.005	0.009	0.032
PERGDP	40	9.324	0.465	8.647	11.880
MARKET	280	8.239	1.848	3.580	11.490
POPULATION	40	5.476	1.292	2.068	8.675
FDI	40	1.780	1.396	0.010	8.760
FISCAL	280	0.252	0.102	0.106	0.743

**Table 1.** Descriptive statistics of the variables.

## 7.Proposed reform of the general budget in light of the digital economy:

### 7.1.The public expenditure aspect of the general budget: It includes: (Guan et al, 2022: 185)

•Correcting the imbalance in the structure of public expenditure: Public expenditure suffers from inflation in the

operational aspect at the expense of the investment aspect, and accordingly, those in charge are required to correct the structure of public expenditure by reducing unnecessary consumer expenditures.

- Increasing the percentage of investment spending: Economic sectors face differences in their growth, as the oil sector is growing at an accelerated pace over the years with a decrease in the growth of productive sectors, as we mentioned previously, due to the weakness of investment projects as a result of weak investment allocations on the one hand with an increase in waste on the other hand, so it is required for decision-makers to increase development trends in the general budget by taking measures to focus on economic sectors with low growth that stimulate the work of the investment accelerator, while following the strategy of (unbalanced growth) by focusing on low-growth sectors.

- Shifting to a budget with an impact corresponding to investment spending: with studied steps, since the requirements of the transformation process for each of the preparations for the transformation from the stage of preparing items to carrying out reforms were not prepared. The process of preparing a unified treasury system IFMIS is not sufficient unless a comprehensive review of the general budget items is carried out, and the requirements for the transformation are prepared by contracting with experts from the International Monetary Fund or the World Bank, to help provide the accounting systems compatible with the introduction of some administrative cadres in development courses on the use of those systems in order to apply them to investment projects and obtain an economic return for those projects. The general revenue aspect of the general budget:

7.2. Correcting the imbalance in the structure of general revenues:

- The general budget suffers from a structural imbalance, and this is clear from the structure of general revenues, as general revenues are concentrated in oil revenues resulting from the increase in oil prices and the increase in the quantity of production, while the contribution of tax revenues, which constitute a low percentage, decreases as a result of the decrease in the tax base in the Iraqi economy, and the sensitivity of the general budget to fluctuations becomes great with the increase in the percentage of oil revenues to the gross domestic product, and the dependence of oil revenues on variables in international markets has increased the fragility of growth and makes opportunities for sustainable economic growth difficult to achieve, as the volatility in oil revenues and the weakness of non-oil revenues have contributed to the loss of fiscal policy of self-stabilization techniques. It has led to the general budget cycle keeping pace with the economic cycle with external extension. Getting out of the situation requires the use of fiscal policies that aim to correct the structure of the general budget through the relative convergence between oil revenues and tax revenues, and this will not be achieved unless other revenues play an important role in the economy by correcting the economic structure that leads to increasing the tax bases from which the tax revenue is collected in the Iraqi economy. (Lan et al, 2020: 86).

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- Directing oil revenues towards stimulating productive sectors: The general budget is the government's means of achieving the program it intends to implement, i.e. it has become the framework that clarifies the government's choice and means of achieving these goals. Therefore, the goal of developing productive sectors (agriculture and manufacturing industries) is a goal in itself that requires focusing on it by allocating oil surpluses towards huge investments in manufacturing industries to stimulate the economy. (Duan et al, 2022: 16)

- Diversifying tax bases for tax revenues and others: The increasing reliance on oil revenues in the Iraqi economy has led to increasing poverty and unemployment rates as a result of the failure to create economic activities that stimulate the private sector to work, which has led to a decline in the activity of economic sectors, and that the successive cycles of backwardness are primarily caused by the decline in economic sectors that create tax bases from which taxes are collected and increase the percentage of tax revenues for public revenues. Therefore, it is necessary to diversify tax bases in the Iraqi economy

## Conclusion

The importance of the digital economy is due to many reasons, including the need to respond and adapt to the requirements of the surrounding environment and avoid lagging behind in keeping pace with the information age. The digital economy requires retraining, reorganization, and the creation of new jobs within institutions. It also achieves many advantages, such as reducing costs and effort, keeping pace with technological progress, and combating corruption.

The study recommends the need to accelerate the overcoming of obstacles that hinder the digital economy and find the necessary solutions for them, as well as trying to bridge the digital gap to reach what advanced countries have achieved in this field, so that we can achieve the goals of the state's general budget in sustaining resources with the need to provide an encouraging investment climate in the field of modern technologies related to communications, which contributes to establishing a good information infrastructure and reviewing successful experiences in various countries of the world, with the aim of benefiting from them and accelerating the government's digital economy, in addition to increasing attention to the human element and improving the work environment, by providing training programs on the digital economy process, and approving a wage and incentive

system that is in line with inflation levels and guarantees them a decent life.

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