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MEASURING AND ANALYZING THE IMPACT OF FINANCIAL SUSTAINABILITY INDICATORS ON IRAQ'S TRADE BALANCE FOR THE PERIOD 2010-2023

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Abstract:

The President of the General Union of the Gulf Chambers of Commerce presented the objectives of the Gulf Chambers Federation. It examines how the development on trade balance is influenced by key public finance indicators such as public debt to GDP ratio, tax pendant, and budget deficit or it's surplus. An improvement in the indicators of fiscal sustainability is expected to get improved the performance of the trade balance through strengthening stabilization and diminishing structural asymmetries.

The study applied analytical and econometric rules by utilizing official annual data of the Iraqi statistical agencies. Econometric models were employed to yield the nature and strength of the relationship between the variables and the impact. Findings indicate major effects of financial sustainability indicators on the trade balance through the analysis of data.

The study's conclusion suggests that enhancing financial sustainability through revenue diversification, rationalization of public expenditure, and debt management are factors that enhance the trade balance and stabilize Iraq's economy

Keywords: Public debt to GDP ratio , tax gap , primary surplus or deficit , trade balance.

THE INTRODUCTION

Between 2010 and 2023, the Iraqi economy faced problems related to deep structural issues and excessive reliance on oil revenues, which are subject to fluctuations in world oil prices, and both of these problems has resulted in a deepening of the fiscal deficit as well as persistent trade balance imbalance. Due to these challenges, financial sustainability has become one of the key pillars of an economic policy that seeks a financial stability and a rise in the resilience of economies to external shocks.

The investigation of fiscal sustainability aims to determine the medium- and long-term capacity of the state to meet its fiscal commitments and to check the absence of risks of excessive deficit or accumulation of public debt, through the management of the indicators fiscal deficit, public debt, government expenditure and public revenue. In contrast, the trade balance is one of the clearest indicators of measuring the external performance of the economy, as it reflects the ability of the state to finance imports and promote exports in the context of financial and economic developments.

For this reason, the significance of the research is represented in the identification of the relationship between indicators of financial sustainability and the balance of payments in Iraq in light of the recurrent financial reforms and the international economic and financial crises in order to contribute to the provision of a scientific vision that helps decision-makers to take more efficient and sustainable financial measures.

RESEARCH PROBLEM:

The research problem refers to the lack of quantitative and precise specification of the nature and extent of the effect of financial sustainability indicators on balance of trade in Iraq despite lots of community service which has been done on earlier work on the balance of trade issues especially during a phase of severe financial jolts and heavy dependence on oil revenue. The first question that relates to the research problem must be selected.

What effect do financial sustainability indicators have on the trade balance in Iraq?

1. This question raises many more questions.
2. Is there a significant correlation between financial sustainability indicators and the balance of payment in Iraq?
3. Can financial sustainability indicators enhance the ability of the trade balance to generate a surplus or decrease a deficit?

IMPORTANCE OF THE RESEARCH

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The results obtained are not of negligible importance and should be put into the economic literature which deals with the issue of Financial Sustainability and its relation to the external sector. The most recent standard analysis from the CPD covers a relatively longer period (2010–2023) and brings together financial sustainability and balance of payments analysis under one unifying analytical framework. The tool also enables Iraqi policymakers to assess the effectiveness of the current fiscal policy. In addition, the public debt management guides public spending and public debt transaction with a favourable impact on the trade balance. It supports effort of economic reform and diversification of sources.

FOURTH: RESEARCH OBJECTIVES

The study has the following objectives:

The research paper's objective is to measure the impact of financial sustainability indicators on the trade balance in Iraq for period (2010–2023). Furthermore, it seeks to assess the contribution of financial sustainability indicators to improving the trade balance. In conclusion, the researcher aims to present recommendations that will improve the financial sustainability and external trade performance of the Philippines.

Fifth: Research hypotheses

The key hypothesis of the study states that there exists a statistically significant relationship between the indicators of financial sustainability and the trade balance in Iraq.

Sixth: Scope of the research

Time limits:

1. The research range from 2010 to 2023
2. The physical borders of the project.
3. The Study is limited to the issue of the economy of Iraq.

Seventh: Research methodology:

The research study applies the descriptive-analytical technique to present the theoretical framework of meanings of financial sustainability and trade balance and the econometric method based on annual time data, with the help of statistical programs such as (Eviews(.

Eighth: Research Structure

The research consists of three sections, as follows:

1. Section One: Framework for a sustainable financially self-sufficient trade balance..
2. Section Two: A Study on the Financial Sustainability and Trade Balance in Iraq.
3. Third topic: Assessing effects of financial sustainability indicators on Iraq's trade balance.

First topic

The conceptual framework for financial sustainability and the trade balance

First requirement: The theoretical framework of financial sustainability

First: The concept of financial sustainability

The term fiscal sustainability is still much debated in economics in terms of definition and meaning. As well as the relevance of such a concept to fiscal discipline and public finance principles. The capacity of a government to maintain its existing levels of spending and revenue continues to be a vital element of its solvency. Fiscal sustainability is the capacity to manage…better. Similar Terms: Political Courage and Good PolicyMaking. Going by this idea, when forecasting public spending and receipts, forecasts need to be incorporated as the fiscal sustainability is long-run. The government must modify spending and revenue in accordance with forecasts to sustain fiscal sustainability; it requires, not only political will, but also adequate legal and economic environment (Radi et al. 2018: 18).

Financial sustainability is the ability of the organization to maintain a certain financial strategy on an ongoing basis and compete in the market. This flexibility refers to the power of money to change its composition and reallocate it in response to changes in business circumstances which ensures profitability and settlement of liability. According to Al-Barwari and Aqrawi (2023:725), "all definitions include a number of key items".

1. The organization evaluates its performance to determine its requirements and future perils.
2. A business or organization intends to recoup costs and earn the income needed to sustain itself through sustainable working.
3. Sustainable finance means embedding environmental and social criteria in financial investment decision-making.
4. The investment level is appropriate for the organization to deliver results effectively.
5. The organisation manages risks appropriately, consistent with its strategy and is capable of dealing with any financial problems.

Second : The importance of financial sustainability

As many countries were left with significant imbalances in their finances after the global financial and economic crisis, fiscal sustainability has emerged as an important policy issue internationally. Moreover, the persistent upward trend in long-term production costs, attributed to the growing scarcity of economic resources, has sparked heightened interest in examining the consequences of fiscal policies on governments' fiscal positions. Furthermore, the economies of

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developed and developing nations depend heavily on fiscal stability. According to experts, a sustainable fiscal policy means the economy uses available economic resources effectively. As a result, GDP growth rates are higher and sustainable too. (2022: 84, Kazem).

According to (Al-Mashhadani et al., 2023: 6), financial sustainability contributes to the performance of institutions in general and educational institutions specifically through: – enhanced efficiency; and – improved access.

When institutions adopt aspects of sustainable finance, their performance will improve, which will have a positive impact on their access to the financing needed to meet their needs and will ensure the continued provision of their products in the future. As a result, this will improve institutions' access to the needed financing now and in the future.

Educational institutions, like all organizations, continue to strive for growth and continuity by adopting the concept of financial sustainability. Financial sustainability means continuity and growth in the future. The educational institution will always seek to continue to provide quality education and educational facilities to achieve this continuity and the institution will be allowed to operate an educational establishment and continue to provide good quality educational services. In addition, they will improve their capacity to cope with unexpected crises which will help mitigate risks threatening their existence and continuity.

Numerous internal and external parties observe the performance of the company such as its lenders, current and potential investors and the management of the company. The interests of each stakeholder can be advanced, if the indicators of performance show that the company grows in a sustainable way in the medium and long term, in addition to controlling high margins that fulfil the expectations of all. As a result of the increasingly high social awareness of sustainable development issues, it is not enough that companies only focus on accounting profit. Performance quality must also include other factors. The quest for contemporary accounting systems or the advancement of already established systems to confront sustainable development challenges, resulting in information production and effective indicators that embody sustainable profits.

The financial sustainability of the bank can attract sufficinet amount of investments from the investors that enables the bank to contribute to the economic development of the country.

The efforts raised banking efficiency, transparency, and discipline for improved financial sustainability in the banking industry.

Third: A. Financial Sustainability Goals

The achievement of social welfare, economic growth and environmental sustainability is basically linked to financial sustainability. While financial institutions can only be sustainable if financial services become sustainable and adverse environmental impacts of their operations are prevented or limited, it is not only about ensuring transparency and working for all the stakeholders' – employees, customers, shareholders and society – good. 36 words For sustainability goals to be achieved and jobs to be created, the financial services sector should be stable. Saleh and Mohammed (2022: 36) note the importance of financial sustainability as being a fundamental driver of sustainability objectives. We aim to optimize resource use while improving the customer experience and boosting productivity. (19 words)

The purpose of the approach is to enable a sustained, sustainable and inclusive growth process for all.

Checking security is one of the most important goals that one tries to achieve. Organizations are progressively assigning greater value to Diversification as they broaden their funding sources. When an organization achieves financial sustainability, it will be able to sustain its human capital and its projects or programs..

Fourth : Financial Sustainability Indicators

Long-to-medium fiscal sustainability of the public sector is an increasingly pressing need. Based on the mounting pressure on public services, sustainability of public debt appears to be necessary. The indicators of fiscal sustainability help to assess the public finances. Their significance lies in pinpointing weaknesses and developing methods for improved recovery and resistance. When governments effectively utilize these indicators, they are able to plan for sustainable fiscal outcomes, reduce economic risks and build a stable and prosperous future. Fiscal sustainability may be measured utilizing a range of indicators (Zayan and Muslim 2023:24).

1. The 0.3 Other illegal use and 2% In certain interventions, violence proved to be ineffective. The increase to 1% in 2003 – and especially afterwards – and to 0.4% in macroeconomic was particularly unpleasant, as the increase is particularly unpleasant. Countries can maintain a higher debt ratio successfully based on their growth stage and level of development. The range of economic debt is affecting by the rise and fall of oil prices in the rentier states, the outbreak of wars, crises and the mismanagement and bad planning in the directing resources to the productive sectors to enable them to develop and increase their returns. This indicator show case the GDP and estimate the debt size relationship with the economic activity of the country. The Maastricht Treaty established that the public debt-to-GDP indicator is an important indicator used to indicate the financial situation of a country. It was signed in 1992. A public debt is said to be fiscally sustainable when the public debt to G.D.P. ratio remains stable and/or declines over time. The public debt to GDP ratio is an essential indicator that lets us know the GDP of a country and how useful it is for the

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citizens in the country. In addition, the analysis also assesses the strength and stability of the economy within the framework of public debt. What's more, this indicator is helpful as it helps us assess the financial soundness of any country or region considering its public debt. In the same manner, it estimates the country's ability to discharge public debt obligations.

As per this indicator, the situation below shows lack of financial sustainability.

A. The debt to GDP ratio in one country is greater than that ratio in the other country.

B b. If the debt to GDP ratio has exceeded the country's past levels.

C. There needs to be a drastic change in fiscal policies to realize stable debt to GDP ratio.

The ratio of financial budgets to public debt and payment of interest derivate approximately 4% of the total public debt which based on past experience is mathematically given by the following formula After the input we process it automoatically. (2022: 66 (Al-Sumaida'i and Al-Rafi'i.

$$\boldsymbol{D_{t-1} = D_t(1 - r_t) + BP_t}$$

Whereas:

Dt1 = Debt-to-GDP ratio in the previous year .

Dt = Public debt for period t, usually a year.

rt = The interest rate on the debt in the same year.

BPt = Initial financial budget for the same year.

1. Index of tax gap; taxes are a series of deductions that are charged by the state to individuals and legal persons; which allows the state to carry out its public spending and achieve its economic objectives. The public revenue comprises funds from taxes, fines, and the state's share of earnings. The money received from its own revenues, the proceeds from the sale of assets and economic projects, loans with inflationary domestic and foreign, and so on, used for public expenditure is known as public revenue.
2. The aim of this indicator is to bring actual tax revenues in line with targeted tax revenues for sustainability. This idea is driven by the aim of maintaining a specified public debt-GDP ratio. The Target Tax-to-GDP Ratio is calculated using the following formula: Government Spending-to-GDP Ratio (excluding interest payments) + (Real Interest Rate – Real GDP Growth Rate) x Public Debt-to-GDP Ratio. A mathematical formula can be used to make this calculation.

Tax gap index = Estimated tax revenue – Actual tax revenue

3. The indicator, referred to as the primary surplus or deficit, is a budget deficit. It is an instance of public expenditures exceeding public revenues and revenues not covering the expenditures. The requirement of a primary budget surplus without a net increase in the ratio of public debt to GDP. In order to be fiscally sustainable, the primary surplus, revenue and expenditure must not be burdened by interest payments. This indicator measures using criteria which include the primary reserve ratio, net operating income ratio, feasibility ratio financial condition ratio and management ratio. The indicator depicts relevant changes in macroeconomic variables, which cause changes in the deficit around the expected value in a normal situation. Using such variations, it is possible to calculate the adjusted base balance or a long term value. The basic idea behind this indicator is comparing estimates of the current values to the adjusted base balance. (Bushra, 2020, p. 24)..

Requirement : The Theoretical Framework Of The Trade Balance

First: The concept of the trade balance

The trade balance is the balance of transactions (that is, purchases and sales of goods and services). Use of the term balance of trade is most broad in the definition of the balance of trade. The trade balance is defined as the difference between a country's exports of goods and its imports of goods over a given time, usually three months. A country's balance of trade, its exports and imports, reveals its trade situation. A balance is said to be in equilibrium when its two sides are equal. The worth of visible exports equals the worth of visible imports, in other words. Nonetheless, we must always ensure to take into account not just the accounting balance but also the economic balance. The accounting balance refers to the situation of equality between the assets and liabilities in various items of the balance of payments. Errors and omissions are taken into account to establish equilibrium. This also allows for a permanent balance in the accounting books. Economic equilibrium refers to the fact that even when the accounting balance is struck, that does not mean economic equilibrium is also struck. The existence of mistakes and omissions in accounts does not mean the absence of economic disequilibrium (Muhyi, 336:20199).

Based on two previous studies, the trade balance is also one of the most important components of the balance of payment. In reality, it can absorb over one-third of the overall amount of the balance of payments. Furthermore, this is especially in the countries whose foreign trade has a very important character. The trade balance indeed reflects all the physical things necessary for the movement of goods. Economic studies take up exports and imports, the two types of trades.

Second: Sections of the trade balance:

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1. The value of import and export of goods that can be seen are merchandising trade balance or a visible trade balance. This account is one of the most important aspects of international economic operations. The credit entries note the export of actual goods (rice, vegetables, textiles, electrical appliances etc.) and the debit entries note the import of things (cars, equipment, wheat…) the later is debited (Khalaf, 2016: 481).

Service trade balance: an important part of the current account which notes all the intangible things between the two countries with trading relation. It mainly consists of the transportation, tourism and insurance services and besides that also includes government services(al-Ubaidi & al-Mashhadani 2022,26) The trade balance has two important effects on the economy.

This phrase is already too short for paraphrasing. Please provide text for paraphrasing. A trade surplus happens when the value of a country's exports exceeds that of its imports. In this situation, the nation becomes a creditor of other nations. The national can use this surplus in multiple ways. The options available are to invest in local economic development, lend to a foreign country, or target funding high foreign import operations. A trade surplus is generally viewed as a good sign of the economy's strength and competitiveness. This indicator alone may not be sufficient to make a reasonable judgment about the economic situation; particularly for those whose economies relied on extractive industries and export of raw mineral materials and energy without working on transforming them, or otherwise diversifying their production structures (Benasser 2023: 114-11(Balance of Payment: It is a definition of an imbalance state whereby the value of imports is greater than the value of exports, that is, the state imports more than it exports, whereby It becomes a debtor to other countries, A critical situation is also if it concentrates imports on consumer goods. in this case, it will be forced to withdraw fromForeign currency reservesor resort to external borrowing. However, if he directs it to productive goods, it may contribute to inspiring economic development, provided that the state has the ability to pay. However, if the deficit persists and rises, this is usually a decline in production at home and a rise in the value of the currency due to changes in supply and demand (Subhi 2023:218) . The trade balance is important for the following reasons (Al-Khazraji, 2023: 30

1-It is one of the most important indicators that expresses the nature of the country's trade and economic relations international

2-It is an important measure of the development of the national economy through the volume of trade exchanges

3-It is the basic criterion that expresses the state of the foreign trade of the country

4-It is a basic component of the balance of payments, specifically imported and exported goods and services

5-It gives a clear idea of the commodity structure of exports and imports, and reflects the level of diversity of the production activity

6-It directly reflects the overall economic situation of the country.

Third requirement - Causes and types of imbalance in the trade balance:

The trade balance of a country is influenced and influences various economic indicators. Sometimes, this is see as a dependent that relies on the action and at other times it is seen as independent. This section examines factors and indicators which influence and are influenced by trade balance performance(Al-Ali & Aisha, 2023:362)

1. **Economic growth rate :** The trade balance and economic growth rate are mutually affected by each other. A trade surplus, for instance, allows a country to supply the necessary foreign currency to purchase capital goods, thereby increasing its ability to produce and improving economic growth rates. On the other hand, a trade deficit is harmful to the economic growth and productive capacity of a country .
2. Interest rates directly impact the flow of capital. Capital inflows for investments in financial assets largely high -yield bonds are due to higher domestic interest rates. When domestic interest rates fall, capital tends to flow out of the country towards other financial markets. This is due to capital seeking to take advantage of the yield gap between domestic and global interest rates.
3. The exchange rate refers to the number of units of the national currency to be paid for obtaining a unit of foreign currency. The trade balance is an important indicator because of the direct correlation with respect to the value of the national currency. Devaluation of the local currency (i.e., an increase in the nominal value of the local currency against foreign currencies) increases the competitiveness of domestic goods, as their prices become lower in foreign markets causing exports to increase. On the other hand, the prices of imported commodities are made comparatively higher and less attractive for domestic consumers, thus restricting the volume of imports. As such, exchange rate fluctuations affect the trade balance (Al-Najjar, 2023: 86-87).
4. GDP growth rate measures the rate of change in the domestic economic output of final goods and services at market prices in a specific period, usually one year. The value of all goods and services produced by a country in a period is called as GDP (i.e. gross domestic product). Further, it is also regarded as the total income earned by the national economy. Moreover, the GDP of a nation is independent of the nationality of the factors of production involved. However, GDP does not relate to the nationality, whether they are domestic or foreign. GDP will only relate to the contribution to the production process within the nation..

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Second topic

Analysis of the reality of financial sustainability indicators in Iraq for the period (2010-2023)

First : Analyzing the reality of the ratio of total public debt to gross domestic product.

Being a major source of revenue for the government, total public debt is an important part of fiscal policy. When governments are unable to support public investment and operational expenditure through domestic revenue raising (largely taxes and fees), there is a financing gap that can be filled. In instances like these, the majority government attempts to fill that gap either by borrowing from the internal economic sectors which is called domestic public debt; or, by borrowing from abroad either from the countries or by international finance institutions like the World Bank, International Monetary Fund, etc. The following table indicates the total public debt to gross domestic product ratio.

Table (1)

The public debt to GDP ratio index in Iraq for the period (2010-2023) (million dinars).

Ratio 1:2 %	Total public debt (2)	Gross Domestic Product (1)	years
46	75,439,742	163,104,739	2010
36	78,476,583	218,617,834	2011
29	74,083,553	255,727,069	2012
26	72,994,121	274,745,875	2013
29	76,102,562	267,262,788	2014
52	99,756,272	196,203,013	2015
60	117,539,911	198,774,369	2016
57	124,816,322	224,636,323	2017
53	120,265,879	272,083,889	2018
56	115,794,546	279,757,643	2019
65	139,495,093	221,593,972	2020
54	162,853,965	302,691,913	2021
41	156,159,068	383,064,152	2022
38	148,324,911	391,431,910	2023

Source: The material was compiled by the researcher based on the data of the Ministry of Planning/Central Statistical Organization/Accounts/Central Bank of Iraq for different years.
Percentages of the researcher's work

The information in Table 1 illustrates that the total public debt to GDP ratio in Iraq took place during the study period (2010-2023) experiencing fluctuations between rise and fall.

The public debt to GDP ratio was (46) in 2010, but it started to slowly fall after that, most of which is below the standard percentage. The lowest percentage recorded in 2013 was (26%) in the examined years. The UN paid off most of Iraq's foreign debts, including the Paris Club ones.

As a result, Iraq's GDP maximized during the study period at 274,745,875 million dinars. Subsequently, the value of public debt minimized at 72,994,121 million dinars during the same period.

Thus, a fall in debt ought to have been caused by an increase in surplus financial value due to oil price hike.

Also, the oil export maximized during the UN sanctions period.

Inside Iraq Decline in Foreign Debt and Increase in Surplus Financial Value Business Essay

From 2014 to 2016, the ratios started declining. The Maastricht Treaty determines that a maximum of 60% of GDP securities must be reached in 2016. This happened as a result of the control over the ratio the public debt rate amounted (117,539,911) million dinars.

Because of the availability of good economic opportunities in Iraq, and the liberation of areas from terrorist gangs, and the rise in the price of oil, the GDP rate reached (198,774,369) million dinars. As the index began to decline during (2017), it achieved a total of (124,816,322) million dinars, and the decline continued until (2019) at which time it attained a total of (115,794,546) million dinars due to the decline in oil prices and the complete halt of economic activity as a result of the repercussions of the Corona pandemic which struck the world (Hamza & Al-Zubaidi, 2022: 67).

According to the economic reports issued by the Iraqi Ministry of Planning (2022), the (2020) report shows that the index was (91,750.312) and this year the index increased by 14.4% per year كلاجتي backlink. The index of construction for the year (2020) was (80,198.024), which did not proceed with the development of the previous years. The overall

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public debt proportion started to rise afterwards, where it reached its highest value in 2020. It reached 139.495.093 million dinars, thus exceeded the standard ratios and reached 65%. Following that, the proportion began to decrease during the year 20211-2023, which is below standard ratio and it reached 38% in 2023 which is the lowest point during the study period.

The decline is attributed to the economic growth recorded at GDP 391,431,910 million dinars and noticed a drop in the ratio of total public debt 148,324,911 million dinars.

Second : Analysis of the current state of the tax gap index

This measure allows us to monitor the evolution of tax revenues which is an essential variable in the implementation of fiscal policies and to finance national economic activities. The purpose of the tax gap indicator is to ensure the public debt-to-GDP ratio is sufficiently low. Reducing the tax gap is key to achieving fiscal sustainable and effective tax collection (Al-Daami & Al-Jubouri, 2023: 72). The table shows an analysis of the tax gap indicator in iraq during 2010-2023.

Table (2)
The gap in tax index in Iraq for the period (2010-2023)(million dinars).

Tax gap percentage	tax gap	Actual tax revenues	Estimated tax revenues	Year
85	1,764,875	3,335,125	2,100,000	2010
30	667,562	1,532,438	2,200,000	2011
23	516,407	1,783,593	2,300,000	2012
40	88,861	2,311,139	2,400,000	2013
(37)	(83,683)	2,518,683	2,436,000	2014
59	2,686,873	1,885,127	4,572,000	2015
49	2,469,945	2,622,055	5,092,000	2016
24	1,425,548	4,530,452	5,956,000	2017
(63)	(2,445,389)	5,780,389	3,335,000	2018
(45)	(2,102,976)	6,815,976	4,713,000	2019
(20)	(839,794)	4,939,794	4,100,000	2020
(23)	(1,016,728)	5,516,728	4,500,000	2021
(91)	(474,124)	5,674,124	5,200,000	2022
15	930,667	5,169,333	6,100,000	2023

Source: The researcher compiled the information according to the Central Bank of Iraq / various years / Trade Economics Annual Bulletins.

The figures indicated in brackets are negative..

Tax gap = Estimated tax revenue – Actual tax revenuePercentages of the researcher's work-

As shown in table (2), the tax gap index in Iraq showed no consistent upward or downward trend. Rather, it fluctuated through the entire study period (2010-2023). The performance of the tax administration suffers from inconsistency year after year. The tax gap indicates how much in tax revenues the IRS estimates should be collected compared to what is actually collected. The majority of the time, the larger the gap the weaker the tax collection, the higher the tax evasion rate or the more inaccurate the government estimates. The years 2010-2013 see a significant gap remaining quite low which at 0.04 was in 2013. It indicates the relative stability of tax collection efficiency that has not changed fundamentally in the overall tax system or the fiscal policy. Nonetheless, the tax gap went negative in the year 2014 with a value of 683.83 and a tax gap of (0.03), meaning that actual revenue was greater than normative revenue, albeit a very slight amount. Between 2015 and 2017, the tax gap started to show a clear increase again led by 2015 with (0.59). Tax evasion is increasing, as is the collection efficiency which is falling down. In 2018, the tax gap had a negative level of (2,445,389) which was the worst so far. Furthermore, it had a high negative ratio (063). The presence of both may suggest a significant shortcoming. The above shows that the tax estimates might not touch reality or the estimates must have been considerably impacted by some atypical and unanticipated economic conditions. Similarly, it may also have resulted from changes in tax policy that were not taken into account when estimating. After the year 2019, the tax gap, in general, experienced a gradual improvement and showed a continuing decrease on a year-on-year basis until it reached (0.15). For 2023 it reflected there are administrative and reform efforts in so that the tax gap shrinks and the efficiency of tax collection improves..

Third : Analysis of the reality of the primary surplus or deficit indicator

Based on the indicators of the budget surplus and deficit primary and the rate of change during the period 2010-2023 as in table 3, the data may be different each year (some negative). The general budget surplus pero fluctuated rose and fell until 2016, which defected primary by 2.964412. The decline in price of oil and the regulating of the terrorist

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groups in some of the provinces is a reason. After the initial defect and takeover of some oil fields, the surplus subsequently started to rise again. The value reached a total of (+377,517) million dinars in 2020 and (+4,324,764) million dinars in 2021.

There was a clear increase in values as a result of either an economic event or political decision that took place. The data shown in the table reflects a quite fluctuating performance or shortage of a material or others due to external circumstances (whether oil prices, international trade, an economic crisis or even because of the outbreak Corona virus pandemic in 2020). The rate of change measures how much a certain result changes from one year to the next. It helps to ensure that there is no fiscal discipline used. Also, it helps to ensure that those surplus in some years help this for the discharge of returning cumulative or.

Table (3)
Indicator of primary surplus or deficit in Iraq (2010-2023).

growth rate	Primary surplus or deficit	Year
0.86	3,027,015	2010
0.98	5,990,278	2011
4.32	31,841,044	2012
0.07	29,718,788	2013
0.73	7,927,349	2014
1.85	22,602,279	2015
0.87	-2964,412	2016
0.28	2121,154	2017
0.39	2941,900	2018
9.12	665 , 782 , 29	2019
0.99	377,547	2020
10.45	4,324,764	2021
0.78	7,696,286	2022
5.21	47,797,604	2023

Source : The numbers between brackets represent negative values. Prepared by the researcher according to data by the Central Bank of Iraq. General Directorate of Statistics and Research. Statistical Website. Annual Statistical Bulletin for different years..

Second requirement
Analysis of the trade balance in Iraq

Table-4 provides an overview of Iraq's trade balance position, indicating whether it experienced a deficit or surplus between 2010 and 2015. During the initial phase, the balance of payment was (+71.33) in the year 2010. On the whole, a positive surplus is generally available till the year 2015. In addition, it shows a significant increase in net exports during this phase. The trade balance value with the largest deficit occurred in 2012 with a value of (30952.80) and 2013 (33590.23) which may be caused by the pattern of peak prices of main commodities of exports (oil) or an increase in quantity exports. The era marked a period of wild swings that started off with extremely rapid growth. After this, a sharp fall occurred and the year 2006 witnessed a contraction (-329.54%) that is to say an economic shock or cyclical crisis took place that year which negative impacted economic activity. In the following years, the growth rates showed improvements, where in 2011, growth 5766.27% was exceptional. The number is believed to be very high, possibly due to a very low base last year (2010) or a major positive shock (such as the significant improvement in the oil sector following the last shutdown). The slowdown in the year 2010 experienced a contraction (-99.51%). Similarly, the slowdown experienced is in years 2014 (-16.76%) and in 2015 (-27.30%). Meaning further slowdown or instability is following. Throughout the years (2016-2025), a significant volatility in the trade balance can be observed, with a relatively improving growth momentum after the two sharpest contraction before a huge leap 2025. This episode recorded positive returns in the trade balance that occurred in most years, except for the ones recorded deficits were in 2016 (-939.73) and 2021 (-4055.32). The year 2025 saw a maximum trade surplus towards the latter part of the period, i.e., 174177198.0. This shows a huge change which is likely due to a substantial structural change or a one-off positive price shock, for e.g. unprecedently big jump in price of one or several important export commodity like oil. Between 2016 and 2022 the negative growth rates Ghana experienced were (-104.62%), (-389.04%), (-53.74%), (-124.40%) and (-778.07%) respectively indicating contractions in those years. The continued length of the contractions could imply a downturn or structural political problems. In 2022 saw the highest contraction for Pib in this period (-778.07%), indicating serious crisis in that year. The trade balances for 2018, 2019 and 2022 are much smaller than the

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jump in the trade balance for that year and the weight of the increase in exports could be heading for saving, debt repayment or imports.

Table (4) The figure illustrates Iraq's trade balance trajectory from 2004 until the year 2025.

% Growth rate	trade balance	years
-99.51	126.00	2010
5766.27	7391.50	2011
318.76	30952.80	2012
8.52	33590.23	2013
-16.76	27961.90	2014
-27.30	20331.20	2015
-104.62	- 939.73	2016
-389.04	2715.80	2017
455.03	15073.30	2018
138.38	35932.00	2019
-53.74	16620.40	2020
-124.40	- 4055.32	2021
-778.07	27553.60	2022
111.65	58316.73	2023

Source: According to the data published on the bank's website (2010-2023).

Third topic
Measuring the role of financial sustainability indicators in achieving fiscal discipline in Iraq for the period 2010-2023

This chapter is concerned with measuring the impact of fiscal sustainability indicators on Iraq's trade balance for the period of 2010-2023. The standard program Eviews is applied in order to display the impact of the variables through an Autoregressive Model (ARDL).

First : Study variables .

Table (5)
These are the symbols for standard model variables.

1	Public debt as a percentage of GDP	**X1**	Independent variable: Financial sustainability
2	Tax gap growth rate	**X2**	
3	Primary surplus or deficit growth rate	**X3**	
4	trade balance	**Y1**	dependent variable trade balance

Source: Researcher's figures

Second: The stillness test

First, the static nature of all model variables is confirmed by conducting stability tests using the Augmented Dickey Fuller (ADF) test :

1. Dickey-Fuller test at level.

Table (6)
The extended Dickey-Fuller test (ADF) for model variables at the level

Null Hypothesis: Unit root (individual unit root process)

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Series: Y, X1, X2, X3				
Method			Statistic	Prob.**
ADF - Fisher Chi-square			12.94827	0.1136
ADF - Choi Z-stat			-0.751944	0.2260
Intermediate ADF test results UNTITLED				
Series	Prob.	Lag	Max Lag	Obs
Y	0.1140	8	10	44
X1	0.0971	7	10	45
X2	0.1419	10	10	42
X3	0.9808	10	10	42

Source: Exports of the statistical package..

The findings in the above table indicate that the entire variable of the study is non – stationary at level. Hence, we will proceed into taking the first difference of the time series in order to achieve the conditions of the model.

2. .Dickey-Fuller test at the first team.

Table (7)

The Extended Dickey-Fuller Test (ADF) for model variables at the first difference

Null Hypothesis: Unit root (individual unit root process)				
Series: Y, X1, X2, X3				
Method			Statistic	Prob.**
ADF - Fisher Chi-square			18.13037	0.0202
ADF - Choi Z-stat			-2.454158	0.0070
Intermediate ADF test results D(UNTITLED)				
Series	Prob.	Lag	Max Lag	Obs
D(Y)	0.0 019	10	10	41
D(X1)	0.0389	7	10	44
D(X2)	0.0077	10	10	41
D(X3)	0.0029	10	10	41

Source: Researcher 's work based on the output ofE-Views13 software

According to the information in the previous table, it is known that the time series of all study variables does not exceed the probability of 5%, meaning that the difference of these series is stable, so there is no need to do the second difference.

Second: Measuring the role of financial sustainability indicators on the public expenditure index.

The distributed lag auto regression (ARDL) model is one that does not need the prior tests of stationary time series, but the most important condition for implementing this model is not to be complete series of type (8). Consequently, the estimate was dominated, and the results got to follow as:Initial estimate afterwards..

Table (8)

Initial assessment results ARDL

Dependent Variable: Y				
Method: ARDL				
Selected model: ARDL(1,0,0,0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
R-squared	0.857732	Mean dependent var		449.531
Adjusted R-squared	0.845624	SD dependent var		1519.39
F-statistic	70.84085	Durbin-Watson stat		0.19775
Prob(F-statistic)	0.000000			

Source: The output of E-Views13 software is the basis of the researcher's work.

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Results from the Autoregressive Distributed Lag Periods (ARDL) model diagnostic tests are shown in Table (8) . Based on the results of the model, it is excellent because the coefficient of determination (R2) is (84 %). The changes that occurred in the dependent variable are explained by the independent variables to the tune of 84 %. Fisher's statistic was (620.3413), so highly significant The entire model is statistically significant.

1. Testing Cointegration in Accordance with ARDL Methodology:

Table numbered 8 confirms that the test boundary is in use as shown above. By checking to see if the depended variable public expenditures cointegrates with any one of the ensuing variable financial sustainability, the probability value came at 5% level of significance as the value of test is (8.697816) being higher than upper and lower values. The null hypothesis is rejected while the alternative hypothesis is accepted. This indicates that there exists a cointegration, meaning there exists a long-term relationship, among the variables of the first model, financial sustainability and public expenditures.

Table (9)
Using ARDL Methodology to Test Cointegration Boundary

Value	**Test Statistics**	
5.52234		**F-statistic**
5%	**I(1)**	**I(0)**
	3.91	**2.962**

Source: The work of the researcher is based on E-Views13 software output.

2. An error correction model, using the ARDL methodology:

The error correction model consists of two elements. The first part shows the "short-run" elasticities given in Table (10). The second part contains the "long-run" elasticities. Here are the results.

The ARDL methodology is the basis for a short-run error corrective model simple regression.

Table (10)
According to ARDL methodology, short-term error correction model.

Dependent Variable: D(Y)				
Method: ARDL				
Sample: 2010Q3 2023Q1				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
COINTEQ*	**-0.204777**	**0.0096988**	**-21.113613**	**0.0000**
D(X1)	**-16.03239**	**4.7899505**	**-3.3470903**	**0.0016**
D(X2(-1))	**-21.33166**	**1.7958322**	**-11.878426**	**0.0000**
D(X3(-1))	**-202.0931**	**16.194839**	**-12.478859**	**0.0000**

Source: The outcomes from the e-views13 program form the base of the researcher's work.

The results of the short-term impact analysis are as follows.

The connection between the public debt-to-GDP ratio and trade balance is of an inverse kind, and it is statistically significant at the level of (5%); it means that an increase in the public debt-to-GDP ratio by one unit results in a decrease in the trade balance.

According to the study, an increase in the growth rate of the tax gap will lead to a drop in trade balance. The results suggested that there is an inverse impact of the gap and statistically significant at (5%) level. An increase in growth rate of tax gap by one will result in drop in trade balance. Furthermore, the relationship will remain the same and ceteris paribus we get the results.

There is an inverse and statistically significant relationship at the (5%) level between the growth rate of the primary surplus or deficit and the trade balance. This means that any increase in the growth rate of the primary surplus or deficit by one unit will decrease the trade balance.

The result of the estimated relationship indicated that the value of (ECM) appeared as a significant negative value equal to (-0.204777) which affirms the non-equilibrium relationship is valid. The deviation of the first dependent variable from its equilibrium level is not permanent. It is corrected in the long term. In other words, the imbalances that occur

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in the short term equilibrium between first dependent variable and the explanatory variables will be adjusted about after 4 years and eight months.

3. The long run error correction model based on ARDL methodology is simple regression.

Table (11)
The ARDL methodology will produce an error correction model (long term).

Variable *	Coefficient	Std. Error	t-Statistic	Prob.
X1(-1)	-38.52411	5.031149	-7.657118	0.0000
X2(-1)	33.80592	3.191125	10.59372	0.0000
X3(-1)	475.7637	59.71670	7.967012	0.0000
C	454.7420	234.1430	1.942155	0.0581

Source: The outputs obtained from E-Views13 are the basis of the researcher's work.

- The correlation between the ratio of just public debt and GDP and trade balance is reverse it is statistically significant difference at level (5%), which means that if we increase the ratio of just public debt and GDP by one unit, our trade balance deceases.
- When the growth rate of the tax gap increases by one unit, the trade balance also increases. This indicates that there is a direct and significant relationship between the growth rate of the tax gap and trade balance at (5%).
- There is a direct and significant statistical relationship between the growth rate of primary surplus/deficit and trade balance. The significance level is (5%). An increase in the one-unit growth rate of primary surplus or deficit will result in an improvement in the trade balance, thus indicating.

CONCLUSIONS AND RECOMMENDATIONS

FIRST: CONCLUSIONS

1. The short-run relationship results data depict that the ratio of public debt to GDP has an inverse relationship with the balance of trade. The result is statistically significant at the 5% level which implies that an increase in the ratio of publ ic debt and GDP by one unit will bring about a decline in the balance of trade.
2. According to the short-run findings of the relationship, it has been found that there occurs an inverse effect between the growth rate of the tax gap and the trade balance, which is statistically significant at the level of (5%), meaning that an increase of on unit in the growth rate of the tax gap would lead to a decrease in the trade balance.
3. As shown by the results of the relationship in the short term, there is an inverse effect between the growth rate of the primary surplus or deficit and the trade balance, and this statistical significance is at the level of (5%) so that the increase in growth rate of the primary surplus or deficit unit lead to a decrease in trade balance.
4. According to the estimated relationship, the value of ECM is appeared as significant negative value (-0.204777). This establishes the validity of the short-run unbalanced relationship, in relation to which (20%) of the unbalances occurring in the short-run equilibrium between 1st dependent variable and its explanatory variable in the respective period get corrected in the period of almost 4 year 8 month {1/-0.204777 = 4.8}.
5. The structure of government spending in Iraq shows the tendency towards current expenditure which limits the ability of the fiscal policy to support local production and boost the exports and thus continuation of the imbalance in the balance of trade. They failed to support productive and export sectors by public spending.
6. The result of the analysis showed the economic diversification and management of financial resources the weak financier sustainability indicator to realize the sustainable long-term stability of the trade balance.

SECOND: RECOMMENDATIONS

1. The process of strengthening fiscal discipline and deficit reduction in the general Budget with the stress of the necessity for the adoption of sound fiscal policy that restrains the growth of unproductive current expenditure so as to strengthen financial sustainability indicators and mitigate their negative impact on the trade balance.
2. Objective is to make sources of public revenue some non-oil to lessen reliance on hydrocarbons. To widen the revenue base, sustain finances and limit fluctuations in trade balances related to oil price, tax and non-tax revenue must be mobilized.
3. The goal is to compress imports, promote exports and improve the balance of payments, through public expenditure on production and export sector, and restructuring of public expenditure, in favour of exportable industrial and agricultural sector.

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4. Effective management of public debt in accordance with financial sustainability standards and the adoption of effective public debt management strategy which focuses on lowering cost and improving structure, will also help alleviate external constraints and minimise the effects of debt service on the trade balance.
5. It is necessary to strengthen coordination between fiscal policy and trade policy, and efforts integration of fiscal policy and trade policy instruments that will support domestic production and protect national industries to positively impact the reduction of the economy goods deficit.
6. The process of building up foreign reserves, as one of the external stability instruments, and striving to increase foreign reserves as an indicator of financial sustainability is motivated by its contribution to economic stability and improvement of the trade balance performance.
7. The study suggests that financial sustainability indicators will be used in the evaluation when the budget, financial policies will be prepared for achieving a sustainable balance between financial and commercial conditions.

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