



Effect of Government Debt on the Non-Oil Trade Balance in Iraq for Period (2004-2020)

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ABSTRACT

Increase in the prices of crude oil and the quantities exported from it, achieved financial surpluses that prompted the Iraqi government to adopt government debt, as a means to increase government consumer spending and the expansion of the government sector. However, the expansionary fiscal policy did not succeed in activating the production sectors, so most of the local production branches continued to suffer from permanent disruption and imbalance. research aims to measure the impact of internal and external government debt on the non-oil trade balance, to know the economic loss facing the Iraqi economy. problem of the research is that the continuation of government debt without the development of domestic production makes the cost of debt exorbitant for the economy and future generations. research concluded that there is a strong relationship between the internal and external government debt in the non-oil trade balance, which warns of the risk of not being able to pay in the future. research recommended the importance of following up on production activities and restricting imports to serve sustainable development plans.

Keywords:

Internal government debt, external government debt, trade balance, economic activities, GDP.

Introduction

Continuation of the unproductive government debt dependent on the sale of crude oil faces the risk of not being able to pay it in the future, as the underdevelopment of productive activities and consequently the trade balance deficit is the most important challenge facing the government debt, both internal and external. Government debt exerts an influence on the macroeconomic environment, and the

imbalance in the structure of domestic production represents the clear effect of the consumer use of government debt. Which caused the creation of a financial gap and an external gap (the foreign exchange gap) and a gap in the balance of payments. *importance of the research* follows the path of the impact of government debt on the trade balance far from the oil sector, and the rentier local economy has dominated in economic resources. *problem of*

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the research is that the continuation of government debt without the development of domestic production makes the cost of debt exorbitant for the economy and future generations. *research aims* to measure the impact of internal and external government debt on the non-oil trade balance, to know the economic loss facing the Iraqi economy. *research hypothesis*: The existence of a strong relationship between government debt and the non-oil trade balance represents the government's reluctance to support GDP.

Theoretical Side

The government debt is defined as ((the set of financial obligations owed by the government, which entails the service of this debt from the loan installment and interest)). But most of the developed and developing world countries face the problem of debt accumulation, as the ratio of government debt / output exceeds (60%). The fiscal deficit puts pressure on the government towards the dominance of fiscal policy over monetary policy, through the liquefaction of government debt, which ends with an increase in the money supply and then a rise in inflation rates, which leads to a weakening of the government's ability to repay the debt. Keynesians believe that the fiscal deficit is caused by either an increase in government spending, a decrease in tax revenues, and a decrease in economic performance. While the neoclassical believes that the fiscal deficit is a structural deficit, and in the long run it negatively affects the relationship between interest rates and private investment (crowding-out), (Gisele Mah and others, 2014). The mortgage crisis witnessed a rise in debt severity in most countries of the developed and developing world, but empirical evidence proved that the fiscal deficit did not persist during that period (Afonso, 2005).

Fiscal sustainability has been subject to economic debate, with differences even within similar groups of countries (Fincke and Greiner, 2011).

The world is facing the risk of rising government debt, especially after the Corona pandemic and the events that followed it, as the rise in

government debt threatens financial sustainability (Kim, Ha, & Kim, 2017).

But the world has many ways to assess the sustainability of government debt (Neck and Sturm, 2008).

There is a study confirming that the quality of institutions has good policies in dealing with the burden of accumulated debt, in contrast to developing countries whose quality of institutions is lower and therefore their policies in dealing with the accumulated debt are ineffective (Cordella, Ricci, and Ruiz-Arranz, 2010).

The quality of institutions is a critical factor in the growth of per capita GDP, as it is a tool for facilitating government debt, as it gives better management of government expenditures and thus improves economic performance (Masuch, Moshammer, and Pierluigi, 2016).

While (Woo, 2003) stresses the importance of political and social stability in the sustainability of public finances, and that government institutions have an important role in the financial situation and government debt policy. Some studies emphasize the relationship between government debt and economic growth and the impact this has on the trade balance. Government debts are linked to many economic and social activities of the government, the tax structure, population growth and demographic distribution, income distribution, and then the impact on the trade balance, trade and international competition (Wei-Bin ZHANG, 2018).

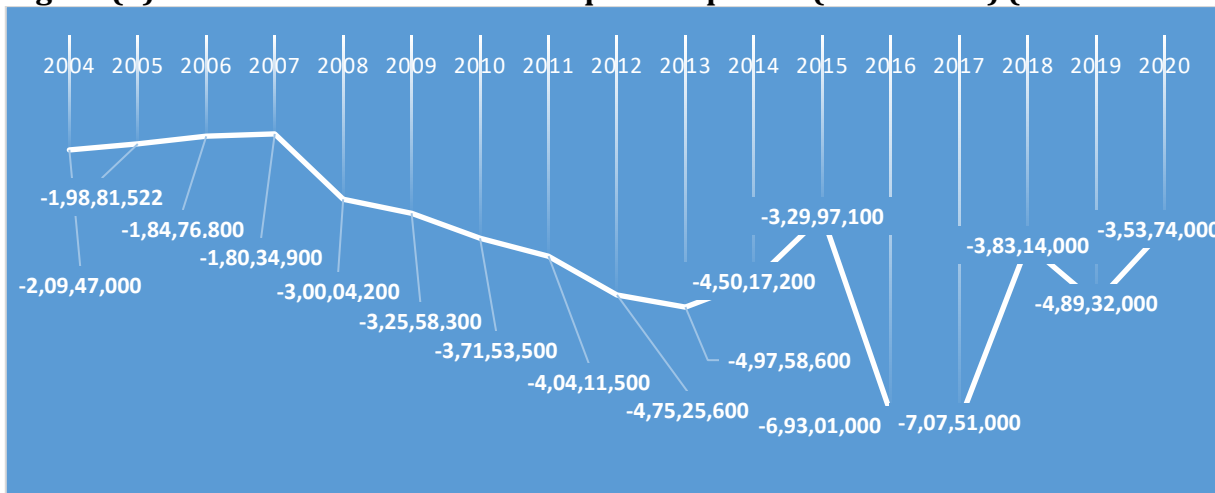
Some studies confirm the relationship between the expansion of the size of the government sector and the development of the degree of corruption (Dzhumashev, 2014).

Results And Discussion

Non-oil trade balance in Iraq suffers from a chronic deficit throughout the research period, due to the sustainable imbalance in the output structure, weak total productivity, distortion of production relations, security and political instability, marriage and displacement, administrative and financial corruption, nepotism, factionalism, external interference and others. The deficit in the non-oil trade

balance represents the foreign exchange gap resulting from the external gap in the balance of payments. (Fig.1).

Figure (1): Non-oil trade balance in Iraq for the period (2004-2020) (Billion dollar)

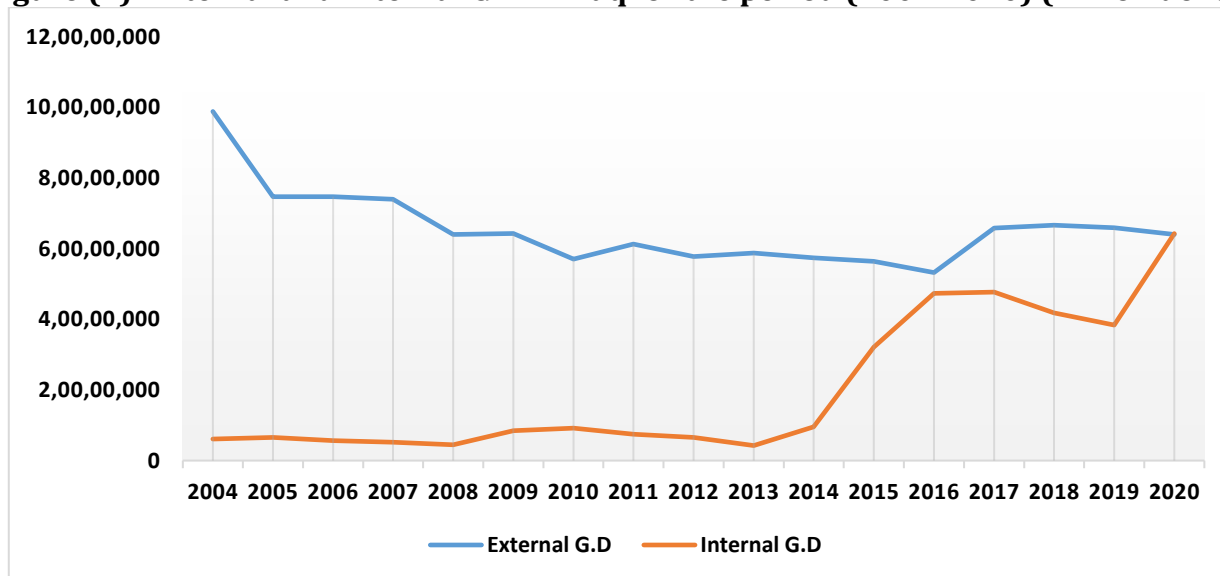


Source: Ministry of Planning and Development Cooperation, Central Bureau of Statistics, Department of National Accounts, various years.

The internal government debt started at low levels and continued like this until 2014, when the Iraqi economy was exposed to a double crisis, as a result of which the local economy and most economic variables were affected. Therefore, after this crisis, the internal government debt began to gradually increase until it almost reached the limits of the external government debt, after the events of the Corona pandemic. and the accompanying economic

closure and the cessation of all economic activities. While the external government debt remained high throughout the research period, which cost the government an exorbitant debt service, the ability of fiscal policy to pay that debt was affected, and with the economic events and the unstable security and political conditions, the imbalance deepened in the structure of the public budget, trade balance and domestic production

Figure (2): External and Internal G.D in Iraq for the period (2004-2020) (Billion dollar)



Source: Ministry of Planning and Development Cooperation, Central Bureau of Statistics, Department of National Accounts, various years.

Time series (T.B) and time series (Internal G.D) are stable at the level, and time series (External G.D) are at the first difference. Thus, Null hypothesis can be rejected and alternative hypothesis accepted. It is now possible to use ARDL Model. (Table 1)

Table (1): Augmented Dickey-Fuller test statistic

| Variables | Level | | | 1 differ. | | |
|---------------------|---------------|---------------|-------------|---------------|--------------|----------------|
| | Int. | Int. & Trend | non | Int. | Int. & Trend | non |
| T.B | 0.2 | 0.3 | 0.4 | 0.002* | 0.01* | 0.0001* |
| External G.D | 0.001* | 0.04** | 0.08 | | | |
| Internal G.D | 0.9 | 0.9 | 0.9 | 0.03* | 0.07 | 0.01* |

Source: program output Eviews 10. *= (1%), **= (5%), ***= (10%).

Where: (T.B): Non-Oil Trade Balance, (External P.D): External Government Debt, (Internal G.D): Internal Government Debt.

Fisher's statistic reached (18.14) in Bounds test, is higher than the upper and lower limits at (1%), which means that there is a co-integration relationship between the model variables. Time series (T.B) and (External G.D) are significant and statistically significant in the long-term parameter test, but time series (Internal G.D) is statistically significant only in the one-year lagging parameter and one different. Table (2).

Table (2): ARDL Long Run Form and Bounds Test

| Dependent Variable: D(T.B) | | | | |
|--|-------------|------------|-------------|-------------------|
| Selected Model: ARDL(3, 0, 2) | | | | |
| Case 2: Restricted Constant and No Trend | | | | |
| Sample: 2004 2020 | | | | |
| Included observations: 14 | | | | |
| Conditional Error Correction Regression | | | | |
| Prob. | t-Statistic | Std. Error | Coefficient | Variable |
| 0.0000 | 0.000000 | 22599975 | -96612676 | C |
| 0.0680 | -2.221771 | 0.173943 | -0.386462 | T.B (-1)* |
| 0.0083 | 3.864652 | 0.315859 | 1.220684 | External G.D ** |
| 0.9529 | -0.061620 | 0.149361 | -0.009204 | Internal G.D (-1) |
| 0.0390 | -2.631623 | 0.140131 | -0.368772 | D(T.B (-1)) |
| 0.0009 | -6.059576 | 0.125882 | -0.762789 | D(T.B (-2)) |

| 0.0003 | 7.516859 | 0.153227 | 1.151786 | D(Internal G.D) |
|---|-----------------------|------------|---------------|----------------------|
| 0.0023 | -5.064253 | 0.214518 | -1.086371 | D(Internal G.D (-1)) |
| Levels Equation | | | | |
| Case 2: Restricted Constant and No Trend | | | | |
| Prob. | t-Statistic | Std. Error | Coefficient | Variable |
| 0.0282 | 2.875071 | 1.098620 | 3.158611 | External G.D |
| 0.9517 | -0.063192 | 0.376870 | -0.023815 | Internal G.D |
| 0.0196 | -3.160499 | 79099026 | -2.50E+08 | C |
| EC = T.B - (3.1586*X -0.0238*X1 -249992412.4241) | | | | |
| Null Hypothesis: No levels relationship | | | F-Bounds Test | |
| I(1) | I(0) | Signif. | Value | Test Statistic |
| | Asymptotic: n=1000 | | | |
| 3.35 | 2.63 | 10% | 18.14370 | F-statistic |
| 3.87 | 3.1 | 5% | 2 | k |
| 4.38 | 3.55 | 2.5% | | |
| 5 | 4.13 | 1% | | |

Source: program output Eviews 10.

Error correction model (38%), It is negative and statistically significant at a lower probability level (5%), means the deviation in short-term errors being quickly adjusted up in model relationships. Table (3).

Table (3): ECM Regression

| Case 2: Restricted Constant and No Trend | | | | |
|--|-------------|------------|-------------|-----------------|
| Prob. | t-Statistic | Std. Error | Coefficient | Variable |
| 0.0009 | -6.028899 | 0.061167 | -0.368772 | D(T.B (-1)) |
| 0.0000 | -11.27732 | 0.067639 | -0.762789 | D(T.B (-2)) |
| 0.0000 | 11.28710 | 0.102044 | 1.151786 | D(Internal G.D) |

| | | | | |
|-------------------|--------------------------|----------|-------------------|----------------------|
| 0.0001 | - 9.389273 | 0.115703 | - 1.08637 1 | D(Internal G.D (-1)) |
| 0.0000 | - 10.43371 | 0.037040 | - 0.38646 2 | CointEq(-1)* |
| - 120694 3. | Mean dependent var | | 0.97507 0 | R-squared |
| 153238 77 | S.D. dependent var | | 0.96398 9 | Adjusted R-squared |
| 32.8762 3 | Akaike info criterion | | 290792 9. | S.E. of regression |
| 33.1044 7 | Schwarz criterion | | 7.61E+1 3 | Sum squared resid |
| 32.8551 1 | Hannan-Quinn criter. | | - 225.133 6 | Log likelihood |
| | | | 2.93240 7 | Durbin-Watson stat |

Source: program output Eviews 10.

The external government debt positively affects non-oil trade balance in Iraq. When the external government debt changes (1%) the non-oil trade balance changes (1.2%). It is statistically significant and has a lower probability level (5%). It means that the external government debt can exert a positive effect in alleviating the sustainable deficit in the non-oil trade account in Iraq, but on the condition that this debt is employed in investment and production projects that work on reforming production relations and correcting the course of the local economy. And then this debt becomes productive, able to finance it, and achieve sustainability in the government debt. But the continued use of government debt for consumer purposes will sustain the non-oil trade balance

deficit, which will reinforce the failure in domestic production and macroeconomic policies.

The internal government debt was positive to non-oil trade balance. If the internal government debt changes (1%) non-oil trade balance changes (1.1%). It is statistically significant and has a lower probability level (5%). As long as the non-oil trade balance suffers from a significant deficit, the rise in the internal government debt will increase the trade balance deficit, as this debt is not used for investment and domestic production.

The interpretation coefficient in the model reached (97%) and the modified interpretation coefficient (93%), as for the Fisher test statistic, it was significant for Model. Table (4)

Table (4): ARDL Model

| | |
|--|---|
| | Sample (adjusted): 2007 2020 |
| | Included observations: 14 after adjustments |
| | Maximum dependent lags: 3 (Automatic selection) |
| | Model selection method: Akaike info criterion (AIC) |
| | Dynamic regressors (2 lags, automatic): X X1 |
| | Fixed regressors: C |
| | Number of models evaluated: 27 |
| | Selected Model: ARDL(3, 0, 2) |

| Prob.* | t-Statistic | Std. Error | Coefficient | Variable |
|-----------|----------------------|---------------|-------------|--------------------|
| 0.0374 | 2.663230 | 0.091905 | 0.244765 | T.B (-1) |
| 0.0118 | -3.568621 | 0.110412 | -0.394017 | T.B (-2) |
| 0.0009 | 6.059576 | 0.125882 | 0.762789 | T.B (-3) |
| 0.0083 | 3.864652 | 0.315859 | 1.220684 | External G.D |
| 0.0003 | 7.516859 | 0.153227 | 1.151786 | Internal G.D |
| 0.0001 | -10.13893 | 0.221657 | -2.247361 | Internal G.D (-1) |
| 0.0023 | 5.064253 | 0.214518 | 1.086371 | Internal G.D (-2) |
| 0.0052 | -4.274902 | 22599975 | -96612676 | C |
| -42580921 | Mean var | dependent | 0.971677 | R-squared |
| 14376931 | S.D. | dependent var | 0.938634 | Adjusted R-squared |
| 33.30480 | Akaike criterion | info | 3561471. | S.E. of regression |
| 33.66998 | Schwarz criterion | | 7.61E+13 | Sum squared resid |
| 33.27100 | Hannan-Quinn criter. | | -225.1336 | Log likelihood |
| 2.932407 | Durbin-Watson stat | | 29.40633 | F-statistic |
| | | | 0.000311 | Prob(F-statistic) |

Source: program output Eviews 10.

The model has passed econometrics tests, (Breusch-Godfrey test) indicates that there is no autocorrelation problem, the probability of the Fisher statistic is (0.3), (Breusch-Pagan-Godfrey test) indicated that there is no problem of Heteroskedasticity, the probability of Fisher

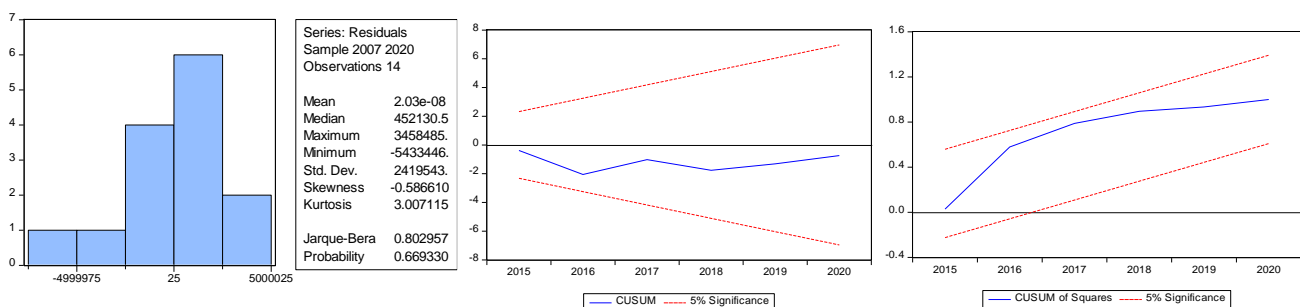
statistic reached (0.8), Test (VIF) indicates that there is no Multicollinearity problem, test (Jarque-bera) indicates a normal distribution of residuals, and test (CUSUM) indicates the stability of the model at the level of significance (5%). Table (5).

Table (5): Econometrics Tests

| | |
|--|----------------------------|
| | Variance Inflation Factors |
| | Sample: 2004 2020 |
| | Included observations: 14 |

| Centered | Uncentered | Coefficient | |
|----------|------------|-------------|-------------------|
| VIF | VIF | Variance | Variable |
| 2.128107 | 18.08714 | 0.008447 | T.B (-1) |
| 3.402548 | 24.18327 | 0.012191 | T.B (-2) |
| 4.815450 | 30.14900 | 0.015846 | T.B (-3) |
| 3.088007 | 424.5931 | 0.099767 | External G.D |
| 10.52318 | 24.62741 | 0.023479 | Internal G.D |
| 15.79727 | 35.67101 | 0.049132 | Internal G.D (-1) |
| 13.77075 | 28.23730 | 0.046018 | Internal G.D (-2) |
| NA | 563.7481 | 5.11E+14 | C |

| Breusch-Godfrey Serial Correlation LM Test: | | | | |
|--|-----------------|------|----------|---------------------|
| 0.3508 | Prob. F(2,4) | | 1.376618 | F-statistic |
| 0.0576 | Prob. Square(2) | Chi- | 5.707679 | Obs*R-squared |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | | |
| 0.8289 | Prob. F(7,6) | | 0.467037 | F-statistic |
| 0.6676 | Prob. Square(7) | Chi- | 4.937789 | Obs*R-squared |
| 0.9962 | Prob. Square(7) | Chi- | 0.910167 | Scaled explained SS |



Conclusions

1-The continuation of the deficit in the trade balance represents the imbalance of the domestic production structure and the weakness of aggregate supply to cover aggregate demand, and consequently the rise in

consumption, which caused a rise in the foreign exchange gap.

2-The internal government debt was at acceptable limits, but it began to increase significantly after 2014, that is, after the crisis of crude oil prices and terrorist attacks, which,

along with the decrease in the productivity of the local economy, caused an increase in the internal government debt until the end of the research period and the repercussions of the Corona crisis.

3-The external government debt remained high throughout the research period, which means that there is a great economic loss borne by the local economy and future generations, represented by the cost of paying this debt with weak domestic production.

4- Quantitative research has proven the existence of a strong direct relationship between the internal and external government debt in the non-oil trade balance, which means that both types of government debt lead to the continuation of the trade balance deficit, the rise in the foreign exchange gap and the deterioration of domestic production.

Recommendations

1- Supporting local production activities and providing the necessary inputs for them to be able to compete and enter international markets.

2- Focus on government investment spending to support the public and private sectors and expand infrastructure projects, which will ensure a good return on government debt and equity for future generations.

3- Reducing government debt, activating the role of local financial markets, and allowing the private sector to play its role in rebuilding the local economy, and addressing macroeconomic problems.

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Appendix (1): Model Data

| Years | non-oil trade balance | External G.D | Internal G.D |
|--------------|------------------------------|---------------------|---------------------|
| 2004 | -20,947,000 | 98,810,000 | 6061000 |
| 2005 | -19,881,522 | 74,693,400 | 6593000 |
| 2006 | -18,476,800 | 74,693,400 | 5645000 |
| 2007 | -18,034,900 | 73,999,500 | 5193000 |
| 2008 | -30,004,200 | 63,963,200 | 4455000 |
| 2009 | -32,558,300 | 64,288,500 | 8434000 |
| 2010 | -37,153,500 | 57,025,800 | 9180000 |
| 2011 | -40,411,500 | 61,266,500 | 7446000 |
| 2012 | -47,525,600 | 57,706,200 | 6547000 |
| 2013 | -49,758,600 | 58,718,600 | 4255000 |
| 2014 | -45,017,200 | 57,347,200 | 9520000 |
| 2015 | -32,997,100 | 56,352,060 | 32142000 |
| 2016 | -69,301,000 | 53,220,000 | 47362000 |
| 2017 | -70,751,000 | 65,800,000 | 47678000 |
| 2018 | -38,314,000 | 66,590,000 | 41822399 |
| 2019 | -48,932,000 | 65,890,000 | 38331548 |
| 2020 | -35,374,000 | 64,000,000 | 64246550 |

Source: Ministry of Planning and Development Cooperation, Central Bureau of Statistics, Department of National Accounts, various years.