

The Impact Of The Budget Deficit On The Repayment Of Iraq Internal Debt For Period 2004-2019

Rafid Jabbar Habeeb¹, Maytham Elaibi Ismael²

^{1,2}Department of Economics, Al-Mustansiriyah University, Baghdad Iraq,

mrta8192@gmail.com¹, laibi9@uomustansiriyah.edu.iq²

Abstract

The research examines general budget (GB) deficit and its impact on Iraq's internal debt (ID) repayment (DR) for some time. (2004-2019), deficit is financed by issuing bonds, treasury transfers and selling them in primary market. The banking system often acquires the largest proportion of these bonds, with contribution of bank debt in 2019 reaching 71% of total domestic debt. Borrowing amounts often went consumer spending without investing in productive sector or rehabilitating infrastructure to create suitable ground for improving the realities of productive sectors such as industry and agriculture in country's financial surpluses, noting that during most of years of consideration General Budget enjoyed financial surpluses but the default was the best option for Financial Authority owing to its dominance of the monetary authority and the lack of clear Government programmers (GP) for successive budgets. The analytical method of data, standard analysis, Results of which showed a weak correlation between the budget deficit, non-payment of internal debt, due to, was used, with greatest impact being the dominance of financial authority's failure to pay during majority of surplus years.

Based on foregoing, the study's findings recommend a policy of fiscal control, rationalization of public expenditure by reducing some paragraphs of unnecessary expenditure, sustaining domestic debt, diversifying sources of domestic debt financing from non-banking institutions and contributing to the public to a greater proportion of domestic savings.

Keywords: Leadership characteristics, coherence, and organizational identity.

1- INTRODUCTION

Domestic debt is an important source for States to fill their public budget (PD) deficits when public expenditures rise at expense of public revenues. Most rentier countries, including Iraq, are dependent on oil for their revenues. This makes economies unstable, vulnerable to shocks. This is what prompts them to borrow to finance their budgets and fill deficit because their fiscal policy options are limited concerning diversity of revenues, except option to raise taxes or increase rates of repayment of public debt premiums and interest., noted in last years of the research period (2004-2019) Iraq's

fiscal policy has been directed more towards internal than external debt owing to dominance of monetary authority, ease of default, as a result of which monetary policy and its objectives have been compromised at expense of closing deficit., in addition to

The importance of research stems from Iraqi Government's commitment to pay its monetary authority dues by attempting to introduce a fiscal control policy for public expenditure, control primary deficit ratios, build a stronger strategy for debt management, sustainability, non-payment ratios, which will enhance its credibility, efficiency before public and

undermine its financial dominance over monetary power.

research also aims to provide a theoretical construction of effects of Iraq's general budget(**GB**) deficit(**BD**), internal debt(**ID**) for 2004-2019 and to focus on its impact on default and analyze, measure relationship between (**PB**) and repayment of Iraq's (**ID**) for 2004-2019 through use of data from reliable sources (Ministry of Finance, Ministry of Planning, Central Bank of Iraq). There have been several studies on impact of (**BD**) on local debt repayment, including:

- Nidal, Asra, 2020 proposes need to diversify sources of (**PB**) financing, reduce dependence on oil revenues, optimize use of public debt amounts by directing them towards investment expenditure and establish productive projects capable of increasing future revenues so that they can be used to finance (**PD**) premiums and service.
- Mazhar, 2021, found that there is no clear strategy for managing Iraq's (**PD**) for the period 1990- 2018 and that (**ID**) is not necessarily negative but depends on how it is used.
- He also stressed (Dagger, 2019) the need to involve the rest of the public and private sector banks other than the three government banks (Al-Rafidain, Al-Rasheed Bank and Iraqi Trade) in bank debt process to benefit more from local savings.
- Noh, 2019 explained in his study that the independent central bank(**CB**) reduces the inflation risk of debt that will have longer maturities and regular debt repayment schedules. Governments with independent central banks are unable to use monetary policy to inflate and alleviate financial shocks and interest rates.
- Kose, 2020 found that the benefits of debt accumulation depend on the productivity of the use of debt, and the extent to which financial markets develop, but if the Government does not take advantage of it, Default will inevitably be urged. The debt sustainability of countries, especially developing countries, has declined since the 2009 global financial crisis. There is no generally applicable ideal debt level for developed and developing economies. Optimal levels of debt depend on the country's characteristics, financial market conditions, government behavior, the multiple

functions in which debt was used., To arrive at significant results, the analytical, descriptive method was used and supported by standard analysis using stillness tests to demonstrate the research hypothesis (Augmented Dickey Fuller Test statistic).

2-Literature review

2-1: The concept of public (BD)

Governments, because of their different philosophies, economic, political orientations, fluctuations in their revenues due to shocks, as well as importance of public budget as a reflection and translation of economic, social, political trends for next period of government. Their budgets can suffer from deficits, this phenomenon is complex, owing to several factors, influences that cause and exacerbate deficits, sometimes due to changes in public expenditures, others to fluctuations in public revenues. In other words, the first factor for general (**BD**) is increase in public expenditure growth rates, on one hand, and second is slowdown in public revenue growth rates (Barth, 1999, p122).

2-2: The concept of (PD)

Recently, Sovereign debt has received considerable attention as an important, critical component of the macroeconomic framework, one of most important fiscal policy instruments, because how debt management is managed significantly affects the budget's overall solvency. (**PD**) management can also reflect credibility and reputation of any sovereign State and its financial stability (Udaibir, 2010: p. 4). Management (**PD**) is also known as authority responsible for developing a sovereign debt management plan, strategy, collecting amounts required for financing at lowest cost while maintaining a balanced risk and achieving fiscal authority's objectives (INTOSAI, 2018: p. 6).

2-3: Defaults: concept, reasons, costs, and available options:

▪ Defaults: Concept

Failure to pay is defined as breaking covenant a broken promise, or not paying or servicing debt, because of borrower's inability to make payments in a timely manner. The same applies to individuals or companies as to governments (Roos, 2019: p. 86).

▪ What are the reasons behind government defaults?

There are a number of reasons for Governments' failure to pay the debts derived from some of them inside and the other outside and we will address them

in detail.

❖ **Internal determinants of default (mismanagement).**

When the government fails to fulfil its obligations, the level of economic performance falls, when the debt is denominated in foreign currency, or when debt is unpleasant during a previous political era, the current government senses no responsibility for debt (Manasse, and Roubini, 2009: p199).

❖ **External determinants of default (shocks).**

External shocks(ES) that fall outside debtor's control, particularly during systemic debt crises occurring in several countries simultaneously, are among the main causes of countries' default.

❖ **Statutory determinants of default.**

Short-term maturities , fixed grace periods are sometimes considered reasons for default, most debt-financed investment projects go through periods of slowdown until interest flows are produced by such investments (Krugman, 2018: p. 477).

• **Options available after default (terminological distinction)**

It is certainly much better for sovereign debtor and its creditors to find a solution through negotiation , lack of default access. We will review options available after default and differentiation.

❖ **Debt Restructuring**

One of things that makes sovereign debt unique is that it is only restructured , often not canceled (Jack Du, 2019: p2).

❖ **Debt Reschedule**

Debt scheduling is limited to prolonging the debt , possibly reducing its interest, which banks hope to turn to rather than restructuring. (Hassan, 2020, p. 2)

❖ **Debt Refinancing**

In debt refinancing, borrower applies for a loan or new debt instrument with better terms than previous loan , can be used to repay , previous obligation, in other words, , new loan is cheaper and , proceeds of this loan are used to repay the obligations on an existing loan. (Jack Du, 2019: p3).

❖ **Debt Repudiation**

Disclaimer is total cancellation of all existing and future (ED) obligations , borrower's property rights, i.e. never repayment, these debts are often called Odious Debt, which moves from previous Governments (Cornett, 2003:42).

3- (PD) deficit , internal debt in Iraq for the period 2004 – 2019

3-1:The deficit , surplus of (GD) in Iraq for period (2004-2019):

The Iraqi Government has pursued an expansionist fiscal policy after 2003 to achieve economic, social security objectives. Iraq's destructive infrastructure , near cessation of industrial and agricultural activities, In addition to a structural imbalance in banking system, increased employment rates to stimulate the economy , reduce unemployment, The increase in oil revenues and the increase in overall level of revenues were biggest catalyst for this policy's expansion agreement, which resulted in (GB) deficits.

We note from table 1 that Iraq's general budget(GD) for 2004-2008 has enjoyed financial surpluses as a result of increased revenues due to higher global oil prices. In contrast, the pace of public spending has also increased by growth rates exceeding 50% annually.

Sometimes, because of military expenditure as a result of security conditions , vicious terrorist attacks, the consequent effects of its expenditure on victims of these attacks, again because of increased government employment, we note that public expenditures increased by more than 210%, from 2004 to 2008, meaning expenditures and revenues are increased expressly. In the same period, we note that revenue-to-expenditure ratio exceeded 100% by reaching 139% in 2007. This indicates the high contribution of revenue to cover expenditure and achieve a surplus in the (GB) without need for public borrowing. After that, budget returned to enjoy financial surpluses for the years 2010-2012 and package relationship between two sides continued, with the budget achieving a financial surplus in 2011 of 25,231,423 million dinars. In 2014, oil prices fell from approximately US \$96 to the US \$44 by the beginning of 2015. Military expenditure on arming and recruitment had to be increased to fight liberation battles. Military formations such as People's Mobilization and Clan Mobilization structures were created. The budget deficit continued from the years 2013-to 2016. The deficit rate rose to 196% in 2016 relative to 2015, and the revenue-to-expenditure ratio decreased by 72% to the government's borrowing to fill the deficit gap.

Therefore, in 2017 an austerity assessment

budget was prepared to reduce government spending and attempt to diversify public revenues, grant facilities to private sector, implement development projects contained in National

Development Plan (2013-2017) , reconstruct infrastructure of liberated governorates (Adai and Kamel, 2017: p. 2).

Table (1) Deficit , surplus of Iraq's general budget for , period 2004-2019 (million dinars)

years	public revenue 1	public spending 2	Ratio of Revenue to Expenditure % 3	actual surplus or deficit 4
2004	32988850	31521427	104	1467423
2005	40435740	30831142	131	9604598
2006	49055545	38806679	126	10248866
2007	54964850	39308348	139	15656502
2008	80641041	67277197.0	119	13363844
2009	55243526	55589721.0	99	346195-
2010	70178223	70134201.0	101	44022
2011	103989089	78757666.3	132	25231423
2012	119817224	105139575.7	113	14677648
2013	113840076	119127556.3	95	5287480-
2014	105553850.0	112192125.1	94	6638275.1-
2015	72546344.7	82813611.0	87	10267266.3-
2016	53413445.5	73570822.6	72	20157377.1-
2017	77281376.6	75490115.4	101	1,791,261.2
2018	106467376.9	80873188.8	131	25,594,188.1
2019	107483586.0	111723523.1	96	4,239,937.1-

Source:

- Columns (2, 1), Republic of Iraq, Ministry of Finance, Economic Service
- Columns (4,3) of the researcher's work

3-2:Analysis of Iraq's internal debt trends for 2004 – 2019

Note from Table (2) that share of domestic debt in public debt was only 7% in 2004 But we note that at the end of 2019 it reached levels exceeding (70%), This indicator reflects an increased reliance on , diversity of domestic savings , indicates low external indebtedness gave oil revenue surpluses , easy borrowing from banking

system because of monetary authority's financial dominance, The difficulty of external lenders' conditions and controls, their reform packages, are difficult to achieve.

In the years 2006-2008, proportion of domestic debt in public debt decreased, with a negative growth rate of 14.4% in 2008, owing to decline in public debt, with a negative growth rate of 42% as a result of increase in oil revenues , reliance on

(ED) by 80%. In 2009, the growth rate of domestic debt rose to 89% , to 30% of total public debt owing to a decline in external borrowing as a result of the global financial crisis that hit global economy.

As a result of Iraq's twin shocks in 2014, rapid solutions had to be sought to finance public spending. These events hurt macroeconomic variables. Structural imbalances grew, private sector consumption and investment declined, as did government investment spending.

We note growth of the (ID) by 238% in 2015, as it was the highest during the period of research, during which time share of investment expenditure decreased against higher operating expenditures, subsidies , transfer payments. In years (2017-2019), dependence on domestic borrowing increased, 2017, to 78% of the (PD), because the Central Bank of Iraq became main guarantor and buyer of government debt papers in secondary market from government banks that hold a large proportion of domestic debt to finance budget deficits.

Table (2) Iraq's (PD) for the period 2004-2019 (million dinars)

The growth rate of the internal debt 5	Ratio of internal debt to public debt 4	External debt Million dinars 3	External debt Million dinars 2	Internal and external public debt 1	years
6.9	0.07	5,925,061	72,155,820	78,080,881	2004
11.3	0.11	6,593,960	51,496,380	58,090,340	2005
-14.4	0.13	5,645,390	36,453,740	42,099,130	2006
-8.0	0.12	5,193,705	36,890,340	42,084,045	2007
-14.2	0.2	4,455,569	19,839,340	24,294,909	2008
89.3	0.3	8,434,049	20,114,280	28,548,329	2009
8.9	0.31	9,180,806	20,076,520	29,257,326	2010
-18.9	0.26	7,446,859	20,673,600	28,120,459	2011
-12.1	0.25	6,547,519	19,086,500	25,634,019	2012
-35.0	0.2	4,255,549	17,893,520	22,149,069	2013
123.7	0.35	9,520,019	17,474,620	26,994,639	2014
237.6	0.67	32,142,805	15,479,240	47,622,045	2015
47.3	0.77	47,362,251	13,846,120	61,208,371	2016
0.7	0.78	47,678,796	13,427,220	61,106,016	2017
-12.3	0.7	41,822,918	12,497,380	54,320,298	2018
-8.0	0.77	38,331,548	11,607,660	49,939,208	2019

Source:Columns (3,2,1), based on CBI data, Statistical Website, Statistics and Research Service,

Annual Statistical Bulletins (2019-2004).Columns (5,4) of the researcher's work.

3-3: sources of financing of Iraq's internal debt for period 2004 - 2019:

A year later 2003 the Iraqi Government relied on public borrowing to finance its public budget deficit, after in the 1990s it relied on new cash issuance and overdraft.

The majority of internal borrowing is financed by CBI in the secondary market due to (Prohibition of government lending in primary market) As provided for in article 26 of Central Bank of Iraq Act No. 56 of 2004 of the Coalition Provisional Authority, and also due to weak financing from the securities markets and the banking system, which continue to suffer many differences between them and stock markets and banks in the rest of the world (Hamdan, 2013:11).

We note in table 3 that, during the period of investigation, Iraq's internal debt is divided into a bank debt consisting of (total remittances to government and private commercial banks, remittances deducted from the Central Bank, government bonds, debt to the Ministry of Finance) and a non-bank debt consisting of (loans to financial institutions, the National Pension Authority, the Department of Minors' Welfare).

Notably, the years 2004-2010 saw no contribution from the non-banking sector to debt financing, as banking sector accounted for total internal debt split between commercial banks' treasury transfers, the old debt of the Ministry of Finance prior to 2003, and for duration (2004-2014)The debt in the banking sector was limited to commercial banks because central bank had no role in borrowing because of the application of article 26 of the Central Bank of Iraq Act No. 56 of 2004 and to prevent direct borrowing from the central bank by the Government (Dagher, 2017: p. 5), the internal debt until 2008 clearly did not rise significantly and its growth rates were slight until 2009. The financial crisis in the global economy jumped from 4,455,569 million dinars for 2008 to 8,434,049 million dinars for 2009, almost double the budget deficit as a result of deteriorating oil prices globally. Since 2011, the contribution of non-bank financial institutions to the non-bank internal debt of the National Pension Authority and the Minors' Welfare Service has been under way. Its contribution in 2011 was approximately 6% of total domestic debt, while banking sector continued to dominate largest proportion of domestic debt. Financial institutions' contribution subsequently increased in 2014 to approximately 30% as a result of increased reliance on domestic debt And the non-bank debt achieved its highest rate in 2015, which is 40%, The growth rate then decreased in the years (2016-2019) to 29% at the end of the term.

Table (3) Sources of financing of Iraq's internal debt for period 2004-2019 (million dinars)

Non-bank debt					
Total domestic debt (10+5) 12	Non-bank debt contribution ratio% 11	Total non-bank debt (9+8+7) 10	Minors' Welfare Service 9	National Pension Authority 8	Financial institutions' loans 7
5,925,061	0	0	0	0	0
6,593,960	0	0	0	0	0
5,645,390	0	0	0	0	0
5,193,705	0	0	0	0	0
4,455,569	0	0	0	0	0
8,434,049	0	0	0	0	0
9,180,806	0	0	0	0	0
7,446,859	60.	44,500	0	44,500	0
6,547,519	60.	259,000	6,500	252,500	0
4,255,549	30.	110,450	16,900	93,550	0
9,520,019	290.	2,751,500	0	2,751,500	0
32,142,805	400.	12,660,557	0	2,199,500	10,461,057
47,362,251	330.	15,274,183	62,350	4,665,600	10,546,233
47,678,796	290.	13,791,393	50,020	3,195,140	10,546,233
41,822,918	300.	12,151,043	0	2,650,000	9,501,043
38,331,548	290.	10,951,508	0	2,300,000	8,651,508

Bank debt						
Proportion of bank debt contribution% 6	Total bank debt (4+3+2+1) 5	Religion On Ministry of Finance 4	treasury bonds 3	Central Bank Remittances 2	Total commercial banks' remittances 1	year
100	5,925,061	4,683,038	0	0	1,242,023	2004
100	6,593,960	5,393,890	0	0	1,200,070	2005
100	5,645,390	5,393,890	0	0	251,500	2006
100	5,193,705	4,674,705	0	0	519,000	2007
100	4,455,569	3,955,519	0	0	500,050	2008
100	8,434,049	3,955,519	0	0	4,478,530	2009
100	9,180,806	3,955,519	0	0	5,225,287	2010
99.4	7,402,359	3,555,519	0	0	3,846,840	2011
0.96	6,288,519	3,155,519	0	0	3,133,000	2012
0.97	4,145,099	2,755,519	0	0	1,389,580	2013
0.71	6,768,519	2,455,519	0	0	4,313,000	2014
0.60	19,482,248	2,355,519	14,525	6,225,392	10,886,812	2015
0.67	32,088,068	2,355,519	1,696,945	16,225,392	11,810,212	2016
0.71	33,887,403	2,155,519	2,682,420	16,225,392	12,824,072	2017
0.70	29,671,875	1,955,519	1,953,189	14,925,392	10,837,775	2018
0.71	27,380,040	1,755,519	1,921,217	14,125,392	9,577,912	2019

Source: Central Bank of Iraq, Statistics and Research Service, Statistical Bulletins for the Years (2004-2019)

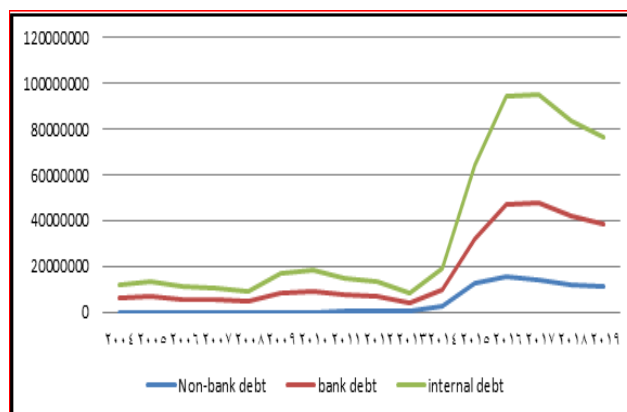


Fig. 1: Iraq's internal debt for the period 2004-2019

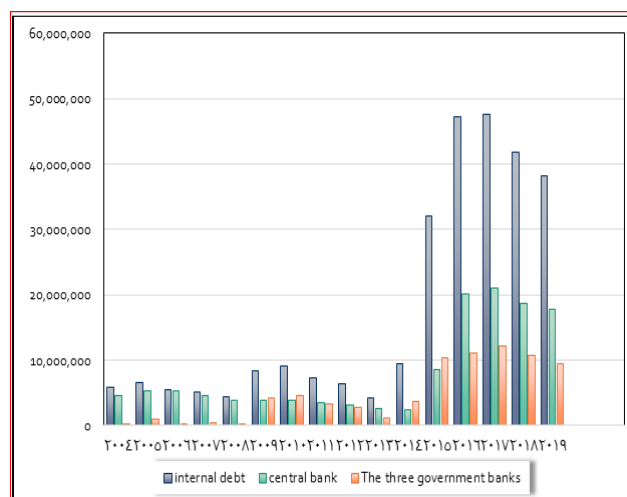


Fig. 2: Central Bank and Commercial Banks' Contribution to Internal Debt

4- Measuring impact of (BD) on Iraq's (ID) repayment for period 2004-2019

The quantitative analysis methodology (standard) is used to measure the relationship between the economic variables involved in the research and their compatibility with validity or invalidity of the research hypotheses, it is important to know stillness of time chains because if they do not exist they will show us false regression results (Spurious). We will measure the relationship between the budget deficit and Iraq's internal debt repayment for the period 2004-2019 using programmer (Eviwes10).

4-1:Model description , analysis of relationship between (BD) and Iraq's internal payment for period (2004-2019).

The standard model represents a set of relationships between several economic variables that represent a particular economic phenomenon,

the aim of which is to analyze , predict them to see the strengths , weaknesses of their control, because relationship between these variables may be causal, i.e. any change in one variable will cause a change in rest of the variables.

- **The mathematical form of model :** To assess , analyze relationship between (BD) and (ID) repayment, we will move towards establishing standard model of independent , follow-up research variables according to following structural formula:

$$f(BD, Id)p =$$

$$p = a + \beta_0 + \beta_1 BD + \beta_2 Id + U$$

Short-term transactions: $\beta_0, \beta_1, \beta_2$

Because debt repayment (P) represents the dependent variable, the budget deficit (BD) and internal debt are independent variables.

Table (4) Standard model variables

	symbol	VARIABLES	VARIABLES
1	BD	Budget deficit	Independent Variable
2	ID	Internal Debt	Independent Variable
3	P	Pay off the debt	Dependent Variable

Researcher's work

A. Data : Quarterly data for research variables, namely internal debt, budget deficits and internal debt repayment ratios in Iraq for the

period 2004-2019, have been used in the standard model for analysis, drawing on national sources such as the Ministry of Finance, the Ministry of Planning and the Central Bank of Iraq.

Table (5) Quarterly data for research variables: (ID) , Iraq's budget deficit for the period (2004-2019) (million dinars)

years	Q	Budget Deficit	Internal Debt
2004	Q1 2004	1321745	6368688
	Q2 2004	-3201378	168463
	Q3 2004	8887079	242110
	Q4 2004	-6142198	-717573
2005	Q1 2005	2740648	6144060

	Q2 2005	5499732	367940
	Q3 2005	3814975	-292360
	Q4 2005	2072360	374320
2006	Q1 2006	730230	6744000
	Q2 2006	4262810	-1000100
	Q3 2006	7244935	250030
	Q4 2006	-1989109	-348540
2007	Q1 2007	3984299	5664114
	Q2 2007	3239952	420363
	Q3 2007	3801439	-29856
	Q4 2007	4542529	-860916
2008	Q1 2008	11880104	4732918
	Q2 2008	10929959	186764
	Q3 2008	5863242	-334836
	Q4 2008	-7824498	-129277
2009	Q1 2009	711914	4416029
	Q2 2009	242487	139510
	Q3 2009	5223361	3409980
	Q4 2009	-3535434	468530
2010	Q1 2010	4959117	11252019
	Q2 2010	2688844	474510
	Q3 2010	1024410	103500
	Q4 2010	-3503238	-2649223
2011	Q1 2011	11311817	8758816
	Q2 2011	10642550	-729287
	Q3 2011	7493558	52610
	Q4 2011	911328	-635280
2012	Q1 2012	9306212	7051269
	Q2 2012	13229619	-170700
	Q3 2012	-36117276	-200030
	Q4 2012	42673065	-133020

2013	Q1 2013	11928087	4562529
	Q2 2013	1476802	-117000
	Q3 2013	2136739	10010
	Q4 2013	-8647260	-199990
2014	Q1 2014	13254903	4542529
	Q2 2014	13780045	1669340
	Q3 2014	11573110	1152000
	Q4 2014	-16777661	2156150
2015	Q1 2015	3460424	20150803
	Q2 2015	-642614	-1075500
	Q3 2015	-737602	1378415
	Q4 2015	-6007471	11689087
2016	Q1 2016	-4707486	37942825
	Q2 2016	-3204968	3393741
	Q3 2016	-1519991	2574385
	Q4 2016	-3225722	3451300
2017	Q1 2017	1828321	46804306
	Q2 2017	1969864	819930
	Q3 2017	248302	-688000
	Q4 2017	-2200647	742560
2018	Q1 2018	8388422	46649565
	Q2 2018	6491370	-520420
	Q3 2018	4384894	-2511361
	Q4 2018	6431959	-1794866
2019	Q1 2019	2028613	43454406
	Q2 2019	5216008	-2043416
	Q3 2019	-457179	-1014098
	Q4 2019	-10943970	-2065344

Source: Ministry of Finance's Data, Economic Service for Years (2004-2019)

Central Bank of Iraq, Statistics and Research Department, Statistical Bulletins for the Years (2004-2019)

B. Stationary Test : These tests are used to determine the dormancy level of model variables , then measure and determine nature of the relationship between these variables through the model outputs. The dormancy of time series is detected based on a set of tests, most notably expanded Dickey Fuller Test (Augmented Dickey Fuller Test statistic) which is used to find out that there is a problem with the root of the unit of time series i.e. the lack of staying data if the regression coefficient of standard formula $p = 1$. The dormancy of time series is revealed at the level I (0), the first difference I (1) or the second difference I (2), comparing tabular results with the critical values at three levels (1%, 5% and 10%) with statistic of t tabular or calculated, if value of t-stat is greater than the critical value rejects hypothesis of non and the alternative hypothesis is accepted (static).

C. Model Estimation : Note from Table (13) results of the Unit Root Test for Study Variables in which it shows stillness of time chains at level (Level) * For study variables DB budget deficit and P debt repayment whether (fixed limit, fixed limit and direction, no fixed limit) and prob value is less than 5%, the first difference * has been taken for the internal debt series ID to avoid the problem of false regression , results have shown stillness of time series both (fixed limit, fixed limit , direction, no fixed limit) at first difference.

able (5) Quarterly data for research variables: internal debt , Iraq's budget deficit for period (2004-2019)

ADF	Level			First Difference			decision
	CONSTANT	Level 1 (0) Prob constant + vector	without constant	1 drf 1 (1) Prob Fixed limit	constant + vector	Without constant	
P	0.0071	0.0006	0.2904	-	-	-	1(0)
BD	0.0000	0.0000	0.0000	-	-	-	1(0)
ID	0.88	0.69	0.79	0.0001	0.0001	0.0000	1(1)

Source: Based on statistical supplement data (2,1) using Eviews 10

Model Estimation: model was assessed based on usual micro-square method , through above-

D. Model Estimation: model was assessed based on usual micro-square method , through

above-estimated results show no moral correlation between the variables studied as follows*:

$$P = 21779 + 0.005 \text{ BD} - 1.83 \text{ D(ID)}$$

$$T\text{-Statistic} = (6.73) \quad (1052) \quad (0.99)$$

$$P\text{-Value: } 0.00 \quad 0.99 \quad 0.13$$

$$R\text{-squared: } 0.037 \quad \text{Adjusted R-squared: } 0.005$$

$$\text{prob (F-statistic): } 0.319$$

Through the results of standard analysis, the equation shows that impact of internal debt , budget deficit on (ID) repayment is very weak. The more the budget deficit increases by 100%, the greater the repayment of an internal debt by 0.005 assuming the stability of other factors. It is a very weak relationship and also shows the weakness of this relationship the R-squared ratio of 3%. The rest of effect is explained by second hypothesis of our research, namely financial dominance, whose obvious impact has been achieved through majority of the years of the research, which has enjoyed a surplus balance, no high debt repayment ratios, and no well-defined sustainability of public debt.

References

- [1] Akrani ,Gaurav ,2011 ,Wagner Law of Increasing State Activity - Public Expenditure , <https://kalyan-city.blogspot.com>.
- [2] Barth, J. R., & Wells, J. M. (1999). Budget Deficits and Debt: A Global Perspective. Edited by Siamack Shojai.
- [3] Central Bank of Iraq, Department of Statistics and Research, Statistical Bulletins for the Years (2004-2019) <https://www.cbi.iq/>
- [4] Dagger, 2019, Public bank debt and foreign reserve constraint in Iraq for the period (2017-2004)<https://cbi.iq/static/uploads/up/file-157122135193521.pdf>
- [5] INTOSAI, 2018, Oversight of Public Debt Management - Guide for Supreme Audit Institutions.
- [6] Josef falkinger Tax "Evasion and equality: theoretical analysis" public finance,1988,no3,p,389

- [7] Kose, M. Ayhan - 2020 - Naotaka Sugawara - Prospects Group, World bank group
- [8] Krugman, P., & Wells, R. 2015. Macroeconomics, 5th edition, US: Worth Publishers
- [9] Laurence J.O, & Meier, K. J. (2004). Parkinson's law and the new public management? Public administration review, 64(3), 342-352.
- [10] Manasse, P. and N. Roubini 2009. "Rules of Thumb for Sovereign Debt Crises," Journal of International Economics, 78 (2).
- [11] Mazhar Muhammad Salih, Iraqi government borrowing: between necessities and risks <http://iraqieconomists.net>
- [12] Medhat Al-Quraishi, bmonetary policy, inflation and development - in Iraq <http://iraqieconomists.net/ar/2011/11/08>
- [13] Ministry of Planning, Central Statistical Organization for different years (2004-2019) <https://mop.gov.iq/news/view/list>
- [14] Nidal and Isra, 2020, Analysis and Measurement of the Impact of Budget Deficit in the Public Debt in Iraq for the period 2003-2016 <https://kjeas.uowasit.edu.iq/index.php/kjeas/article/view/236>
- [15] Ministry of Finance, the official website of the Ministry, the Economic Department <https://www.mof.gov.iq/>
- [16] Udaibir S. Das, Guilherme Pedras, Faisal Ahmed, and Jay Surti, Managing Public Debt and Its Financial Stability Implications, IFM working paper, 2010

Null Hypothesis: ID has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.499750	0.8835
Test critical values:		
1% level	-3.544063	
5% level	-2.910860	
10% level	-2.593090	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ID)

Method: Least Squares

Date: 03/19/22 Time: 16:21

Sample (adjusted): 2005Q1 2019Q4

Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ID(-1)	-0.059248	0.118556	-0.499750	0.6192
D(ID(-1))	-0.948126	0.098168	-9.658188	0.0000
D(ID(-2))	-0.974471	0.076473	-12.74262	0.0000
D(ID(-3))	-1.040666	0.054609	-19.05658	0.0000
C	837496.3	750480.5	1.115947	0.2693
R-squared	0.942448	Mean dependent var	-22462.85	
Adjusted R-squared	0.938263	S.D. dependent var	16587520	
S.E. of regression	4121502.	Akaike info criterion	33.38099	
Sum squared resid	9.34E+14	Schwarz criterion	33.55552	
Log likelihood	-996.4297	Hannan-Quinn criter.	33.44926	
F-statistic	225.1653	Durbin-Watson stat	1.546474	
Prob(F-statistic)	0.000000			

Null Hypothesis: ID has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 4 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.787125	0.6985
Test critical values:		
1% level	-4.121303	
5% level	-3.487845	
10% level	-3.172314	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ID)

Method: Least Squares

Date: 03/19/22 Time: 16:23

Sample (adjusted): 2005Q2 2019Q4

Included observations: 59 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ID(-1)	-0.333044	0.186358	-1.787125	0.0797
D(ID(-1))	-0.491927	0.206648	-2.380506	0.0210
D(ID(-2))	-0.580100	0.177674	-3.264978	0.0019
D(ID(-3))	-0.708596	0.155148	-4.567241	0.0000
D(ID(-4))	0.288374	0.147160	1.959603	0.0554
C	-793717.2	1255983.	-0.631949	0.5302
@TREND("2004Q1")	80917.43	49090.26	1.648340	0.1053
R-squared	0.948480	Mean dependent var	-139142.4	
Adjusted R-squared	0.942535	S.D. dependent var	16705052	
S.E. of regression	4004501.	Akaike info criterion	33.35473	
Sum squared resid	8.34E+14	Schwarz criterion	33.60122	
Log likelihood	-976.9646	Hannan-Quinn criter.	33.45095	
F-statistic	159.5526	Durbin-Watson stat	2.034383	
Prob(F-statistic)	0.000000			

Statistical supplements

Null Hypothesis: ID has a unit root
 Exogenous: None
 Lag Length: 3 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.402520	0.7966
Test critical values:		
1% level	-2.604073	
5% level	-1.946348	
10% level	-1.613293	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ID)
 Method: Least Squares
 Date: 03/19/22 Time: 16:23
 Sample (adjusted): 2005Q1 2019Q4
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ID(-1)	0.033946	0.084335	0.402520	0.6888
D(ID(-1),2)	-1.018294	0.075554	-13.47777	0.0000
D(ID(-2),2)	-1.021956	0.063681	-16.04811	0.0000
D(ID(-3))	-1.065482	0.049986	-21.31576	0.0000
R-squared	0.941145	Mean dependent var	-22462.85	
Adjusted R-squared	0.937992	S.D. dependent var	16587520	
S.E. of regression	4130520.	Akaike info criterion	33.37005	
Sum squared resid	9.55E+14	Schwarz criterion	33.50967	
Log likelihood	-997.1014	Hannan-Quinn criter.	33.42466	
Durbin-Watson stat	1.546945			

Null Hypothesis: D(ID) has a unit root
 Exogenous: Constant
 Lag Length: 2 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-38.74500	0.0001
Test critical values:		
1% level	-3.544063	
5% level	-2.910860	
10% level	-2.593090	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ID,2)
 Method: Least Squares
 Date: 03/19/22 Time: 16:26
 Sample (adjusted): 2005Q1 2019Q4
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ID(-1))	-4.055758	0.104678	-38.74500	0.0000
D(ID(-1),2)	2.062714	0.078328	26.33424	0.0000
D(ID(-2),2)	1.057472	0.042738	24.74304	0.0000
C	573306.4	529107.3	1.083535	0.2832
R-squared	0.980275	Mean dependent var	-1526.050	
Adjusted R-squared	0.979219	S.D. dependent var	28398235	
S.E. of regression	4093800.	Akaike info criterion	33.35219	
Sum squared resid	9.39E+14	Schwarz criterion	33.49181	
Log likelihood	-996.5656	Hannan-Quinn criter.	33.40680	
F-statistic	927.7015	Durbin-Watson stat	1.560514	
Prob(F-statistic)	0.000000			

Null Hypothesis: D(ID) has a unit root
 Exogenous: Constant, Linear Trend
 Lag Length: 2 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-38.50438	0.0001
Test critical values:		
1% level	-4.118444	
5% level	-3.486509	
10% level	-3.171541	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ID,2)
 Method: Least Squares
 Date: 03/19/22 Time: 16:27
 Sample (adjusted): 2005Q1 2019Q4
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ID(-1))	-4.057934	0.105389	-38.50438	0.0000
D(ID(-1),2)	2.064908	0.078903	26.17032	0.0000
D(ID(-2),2)	1.059223	0.043111	24.56983	0.0000
C	-10133.67	1159468.	-0.008740	0.9931
@TREND("2004Q1")	17447.96	30803.55	0.566427	0.5734
R-squared	0.980390	Mean dependent var	-1526.050	
Adjusted R-squared	0.978964	S.D. dependent var	28398235	
S.E. of regression	4118853.	Akaike info criterion	33.37970	
Sum squared resid	9.33E+14	Schwarz criterion	33.55423	
Log likelihood	-996.3911	Hannan-Quinn criter.	33.44787	
F-statistic	687.4181	Durbin-Watson stat	1.568433	
Prob(F-statistic)	0.000000			

Null Hypothesis: D(ID) has a unit root
 Exogenous: None
 Lag Length: 2 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-38.67216	0.0000
Test critical values:		
1% level	-2.604073	
5% level	-1.946348	
10% level	-1.613293	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ID,2)
 Method: Least Squares
 Date: 03/19/22 Time: 16:28
 Sample (adjusted): 2005Q1 2019Q4
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ID(-1))	-4.051653	0.104769	-38.67216	0.0000
D(ID(-1),2)	2.059269	0.078383	26.27187	0.0000
D(ID(-2),2)	1.055273	0.042755	24.68182	0.0000
R-squared	0.979862	Mean dependent var	-1526.050	
Adjusted R-squared	0.979155	S.D. dependent var	28398235	
S.E. of regression	4100046.	Akaike info criterion	33.33960	
Sum squared resid	9.58E+14	Schwarz criterion	33.44432	
Log likelihood	-997.1880	Hannan-Quinn criter.	33.38056	
Durbin-Watson stat	1.531272			

Null Hypothesis: P has a unit root
 Exogenous: Constant
 Lag Length: 9 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.682961	0.0071
Test critical values:		
1% level	-3.557472	
5% level	-2.916506	
10% level	-2.596116	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(P)
 Method: Least Squares
 Date: 03/19/22 Time: 16:29
 Sample (adjusted): 2006Q3 2019Q4
 Included observations: 54 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
P(-1)	-0.230025	0.062456	-3.682961	0.0006
D(P(-1))	0.761153	0.113465	6.708236	0.0000
D(P(-2))	0.222790	0.108380	2.055637	0.0459
D(P(-3))	0.171826	0.110500	1.554995	0.1273
D(P(-4))	-0.372865	0.111530	-3.343171	0.0017
D(P(-5))	0.442124	0.116958	3.790192	0.0005
D(P(-6))	0.111047	0.105878	1.048817	0.3001
D(P(-7))	0.100024	0.106531	0.938918	0.3530
D(P(-8))	-0.611878	0.108221	-5.653979	0.0000
D(P(-9))	0.538568	0.111975	4.809728	0.0000
C	60902.43	17196.86	3.541486	0.0010
R-squared	0.804148	Mean dependent var	6734.696	
Adjusted R-squared	0.758602	S.D. dependent var	102783.8	
S.E. of regression	50500.04	Akaike info criterion	24.67696	
Sum squared resid	1.10E+11	Schwarz criterion	25.08212	
Log likelihood	-655.2779	Hannan-Quinn criter.	24.83322	
F-statistic	17.65541	Durbin-Watson stat	2.316291	
Prob(F-statistic)	0.000000			

Null Hypothesis: P has a unit root
 Exogenous: Constant, Linear Trend
 Lag Length: 10 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.126761	0.0006
Test critical values:		
1% level	-4.140858	
5% level	-3.496960	
10% level	-3.177579	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(P)
 Method: Least Squares
 Date: 03/19/22 Time: 16:30
 Sample (adjusted): 2006Q4 2019Q4
 Included observations: 53 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
P(-1)	-0.397604	0.077555	-5.126761	0.0000
D(P(-1))	0.609942	0.121360	5.025899	0.0000
D(P(-2))	0.486042	0.148410	3.274988	0.0022
D(P(-3))	0.285686	0.107490	2.657799	0.0113
D(P(-4))	-0.263301	0.107462	-2.450178	0.0187
D(P(-5))	0.369466	0.113608	3.252122	0.0023
D(P(-6))	0.306687	0.123694	2.479397	0.0175
D(P(-7))	0.159140	0.098754	1.611482	0.1149
D(P(-8))	-0.556126	0.100811	-5.518543	0.0000
D(P(-9))	0.331024	0.130950	2.527861	0.0155
D(P(-10))	0.268860	0.126498	2.125401	0.0398
C	159989.8	35130.84	4.554112	0.0000
@TREND("2004Q1")	-1511.413	518.1159	-2.917132	0.0058
R-squared	0.848180	Mean dependent var	5165.575	
Adjusted R-squared	0.802634	S.D. dependent var	103112.3	
S.E. of regression	45808.54	Akaike info criterion	24.51148	
Sum squared resid	8.39E+10	Schwarz criterion	24.99476	
Log likelihood	-636.5543	Hannan-Quinn criter.	24.69733	
F-statistic	18.62253	Durbin-Watson stat	2.176340	
Prob(F-statistic)	0.000000			

Null Hypothesis: P has a unit root
 Exogenous: None
 Lag Length: 9 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.976269	0.2904
Test critical values:		
1% level	-2.608490	
5% level	-1.946996	
10% level	-1.612934	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(P)
 Method: Least Squares
 Date: 03/19/22 Time: 16:31
 Sample (adjusted): 2006Q3 2019Q4
 Included observations: 54 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
P(-1)	-0.027644	0.028316	-0.976269	0.3343
D(P(-1))	0.737731	0.127265	5.796803	0.0000
D(P(-2))	0.108937	0.116288	0.936784	0.3540
D(P(-3))	0.042839	0.117212	0.365485	0.7165
D(P(-4))	-0.509410	0.117582	-4.332381	0.0001
D(P(-5))	0.385010	0.130151	2.958189	0.0050
D(P(-6))	0.034023	0.116421	0.292238	0.7715
D(P(-7))	0.013494	0.116500	0.115828	0.9083
D(P(-8))	-0.715393	0.117071	-6.110785	0.0000
D(P(-9))	0.512850	0.125542	4.085078	0.0002
R-squared	0.747023	Mean dependent var	6734.696	
Adjusted R-squared	0.695278	S.D. dependent var	102783.8	
S.E. of regression	56738.34	Akaike info criterion	24.89586	
Sum squared resid	1.42E+11	Schwarz criterion	25.26419	
Log likelihood	-662.1883	Hannan-Quinn criter.	25.03791	
Durbin-Watson stat	2.112273			

Heteroskedasticity Test: Breusch-Pagan-Godfrey

	F-statistic	Prob. F(2,60)	Prob. Chi-Square(2)	Prob. Chi-Square(2)
F-statistic	0.669508	0.5157	0.5028	0.0358
Obs*R-squared	1.375275			
Scaled explained SS	6.659219			

Test Equation:

Dependent Variable: RESID^2
 Method: Least Squares
 Date: 03/19/22 Time: 16:16
 Sample: 2004Q2 2019Q4
 Included observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.57E+13	4.78E+13	0.956074	0.3429
D(ID)	131604.7	2165830.	0.060764	0.9517
P	1.64E+08	1.42E+08	1.155534	0.2525
R-squared	0.021830	Mean dependent var	8.34E+13	
Adjusted R-squared	-0.010776	S.D. dependent var	2.75E+14	
S.E. of regression	2.76E+14	Akaike info criterion	69.38917	
Sum squared resid	4.58E+30	Schwarz criterion	69.49122	
Log likelihood	-2182.759	Hannan-Quinn criter.	69.42931	
F-statistic	0.669508	Durbin-Watson stat	1.035645	
Prob(F-statistic)	0.515743			

Date: 03/19/22 Time: 16:15
 Sample: 2004Q1 2019Q4
 Included observations: 63

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
█	█	1 -0.296	-0.296	5.7940	0.016
█	█	2 -0.092	-0.197	6.3616	0.042
█	█	3 0.005	-0.098	6.3631	0.095
█	█	4 -0.007	-0.065	6.3668	0.173
█	█	5 0.136	0.120	7.6660	0.176
█	█	6 -0.036	0.055	7.7597	0.256
█	█	7 0.040	0.101	7.8761	0.344
█	█	8 -0.131	-0.089	8.1547	0.329
█	█	9 0.080	0.021	9.6411	0.380
█	█	10 -0.136	-0.187	11.0668	0.352
█	█	11 0.029	-0.089	11.133	0.432
█	█	12 0.012	-0.079	11.145	0.517
█	█	13 -0.014	-0.005	11.160	0.597
█	█	14 -0.063	-0.090	11.487	0.647
█	█	15 0.053	0.076	11.726	0.700
█	█	16 -0.015	-0.004	11.745	0.761
█	█	17 -0.049	-0.014	11.957	0.803
█	█	18 -0.019	-0.110	11.990	0.848
█	█	19 0.021	-0.016	12.029	0.884
█	█	20 0.102	0.046	13.014	0.877
█	█	21 -0.026	0.054	13.080	0.906
█	█	22 -0.117	-0.116	14.440	0.885
█	█	23 -0.012	-0.065	14.455	0.913
█	█	24 0.079	-0.034	15.111	0.917
█	█	25 -0.018	-0.038	15.145	0.938
█	█	26 0.063	0.043	15.590	0.946
█	█	27 -0.077	-0.016	16.270	0.948
█	█	28 -0.031	-0.043	16.384	0.960

Null Hypothesis: BD has a unit root
 Exogenous: None
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.106984	0.0000
Test critical values:		
1% level	-2.602185	
5% level	-1.946072	
10% level	-1.613448	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(BD)
 Method: Least Squares
 Date: 03/19/22 Time: 16:20
 Sample (adjusted): 2004Q2 2019Q4
 Included observations: 63 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BD(-1)	-1.154604	0.126782	-9.106984	0.0000
R-squared	0.572152	Mean dependent var		-194693.9
Adjusted R-squared	0.572152	S.D. dependent var		14716332
S.E. of regression	9626962	Akaike info criterion		35.01357
Sum squared resid	5.74E+15	Schwarz criterion		35.04759
Log likelihood	-1101.928	Hannan-Quinn criter.		35.02695
Durbin-Watson stat	1.973381			

Null Hypothesis: BD has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.952933	0.0000
Test critical values:		
1% level	-3.538362	
5% level	-2.908420	
10% level	-2.591799	

*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(BD)
 Method: Least Squares
 Date: 03/19/22 Time: 16:17
 Sample (adjusted): 2004Q2 2019Q4
 Included observations: 63 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BD(-1)	-1.254981	0.126092	-9.952933	0.0000
C	3299142.	1206151.	2.735265	0.0082
R-squared	0.618895	Mean dependent var		-194693.9
Adjusted R-squared	0.612647	S.D. dependent var		14716332
S.E. of regression	9159100.	Akaike info criterion		34.92963
Sum squared resid	5.12E+15	Schwarz criterion		34.99766
Log likelihood	-1098.283	Hannan-Quinn criter.		34.95638
F-statistic	99.06088	Durbin-Watson stat		2.019088
Prob(F-statistic)	0.000000			