

Political stability, Corruption and its impact on the development of public debt and economic growth: a case study of Iraq for the period 2004-2020

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Abstract

This paper presents a comprehensive view of the impact of political stability and corruption on the growth of public debt and economic growth in Iraq. It is known to all researchers and Those interested in the Iraqi economy, that Iraq suffers from a high rate of corruption and political instability, which negatively affects its public budget and its ability to collect the basis of taxes. In addition to the waste that corruption causes in public expenditure, this means that Iraq has to resort to public debt, especially external debt, and is subject to the conditions imposed by the lending institutions. In addition, corruption causes the inability to pay the financial dues he owes, which means that these debts will be rescheduled and the interest rates on them are doubled. Thus, more burdens and more public debt, which will reflect negatively on indicators of economic growth. This paper aimed to measure the relationship between variables using the ARDL-Autoregressive Distributed Lag Model to show the extent of the impact of political stability on GDP and public debt for a time series that extended for the period (2004-2020). The results showed the presence of a direct significant effect of the political stability index on the gross domestic product in the short and long term, and the presence of an inverse significant effect of the political stability index on public debt in the short and long term, and this agrees with the logic of economic theory, because the increase in political stability by (1%) leads to an increase in GDP by (0.01). An increase in political stability by (1%) leads to a decrease in public debt by (2.80), and vice versa.

Keywords: public debt, corruption, political stability, ARDL, economic growth JEL: G01, H64, F34.

1. Introduction

Political stability is an important goal that all regimes seek. Because it is the basis of economic stability and the quality of performance of its overall variables. It does not necessarily mean only the absence of coups, wars and insecurity, but it also means the stability of governments and not changing them frequently within a short period of time, or what is known as administrative stability, as the existence of this stability for a period of time allows governments to strategic planning and implementation of plans and this is an important factor towards achieving efficiency in the performance of governments and the achievement of economic policy objectives.

Political stability plays an important role, but rather it is the most important factor in attracting capital or its escape, as weak political stability and a high level of violence leads to

a low saving rate and an increase in capital flight rates. It is the factor influencing the decision of the investor, who usually fears the unstable investment environment, so it is necessary that there be political stability and a decline in the level of violence in order to attract local and foreign investment.

Theoretical literature on the determination of public debt flourished with the profitable idea that public debt is determined to a large extent by political and institutional factors, and that the presence of a high rate of indebtedness is the result of politicians' disagreement and consequently the lack of political stability (Grechyna, 2012).

Political instability and the spread of corruption are among the most important challenges facing any country. Corruption can be defined as everything that causes the loss of resources, whether due to embezzlement of public funds or tolerance of delays and low efficiency in the work of government projects (Jarwan; Fawaz & Hammad, 2020). Corruption leads to wasting economic resources and causes distortion in the fields of public expenditure of the country, as it finances rentier activities and for the benefit of a particular class and moves away from productive activities, which negatively affects the gross domestic product, thus economic development and the per capita share of public welfare. It also works on the weakness of the tax base funded for this expenditure, due to tax evasion on the one hand, and the allowances that are given to people related to the influential parties. Therefore, there becomes a deficiency in financing the expenditure, which forces the government to resort to public debt as a prosthetic-financial solution that current and subsequent generations pay the price for.

It is known that the accumulation of debts in light of the political instability that generates corruption means the weakness of the production base, thus the inability to pay the financial dues owed by the country, forcing the lenders to reschedule the debt and raise the interest on these debts also, which increases the burden on the country and negatively affects its financial and monetary stability and economic growth.

The spread of corruption and political instability reflect negatively on growth and investment. With the presence of corruption and the restrictions it imposes on investment, whether they are harassment or amounts and financial restrictions imposed on the investor, which pushes investors to abandon investment. As well as imposing taxes on investors and exempting others and their evasion of paying them means the reluctance of investors to invest, or directing them to non-productive investment, which will negatively affect the volume of production and, consequently, economic growth. Political instability leads the government, which does not expect its continuation to work, to take immediate decisions without realizing its future consequences, such as an increase in public debt and a decrease in real investment or investment to combat corruption (Devereux & Wen, 1998; Suard, 2020; Tunitit, 2020).

Corruption does not consist in achieving rentier profits only, but rather it is the mismanagement of the public sector and the preference for current consumption over the future one due to poor productivity, which constitutes excessive debt and burdening the state with the future burden. The quality of public sector management differs from one country to another, and it is lower than other in countries where corruption and political instability are widespread. The quality of public sector management can be measured by estimating the economic and social benefits of government projects, and the number of people enrolled in education from the population, can be a measure of the quality of education, as well as the number of deaths in relation to the quality of the health sector, but these indicators are difficult to measure.

However, all evidence indicate that strong institutions are more able to bear the burden of public debt (Cassimon Megersa & 2015). With the increase in the size of the public debt, the level of instability will also rise and vice versa. The rise in corruption and political instability leads to the accumulation of public debt, due to the instability of fiscal policy, the accumulated debts of previous governments and the continuously transitional political situation (Grechyna, 2010; Utomo, 2021).

Political instability generates an unattractive investment environment. It also stimulates inflation and leads to a decrease in the rate of economic growth, and consequently more debt. Political instability also affects inflation and public debt in the turbulent economic conditions, which is also represented by the state's lack of control over its financial instruments and for the purpose of achieving temporary stability or ensuring its survival in power, the government may over-demand debts, and this means, in the presence of corruption, more unproductive expenditure, which leads to the high rate of inflation and the inability to pay the public debt service, and consequently more debt. So, public debt and inflation can be considered a cause and a consequence of political instability (Sallahuddin & Awan, 2017).

Also, political instability generates several things, including a decrease in internal financing due to lack of confidence in the government, as well as losing it even external financing due to the spread of corruption and its mismanagement of the economy, or the lending countries may raise interest rates on these debts, and because of poor management, these debts may accumulate and be rescheduled, which increases of the public debt burden.

The rise in government rentier activities leads to a decrease in the level of economic growth and GDP, and thus the per capita share of the gross domestic product, which weakens the possibility of imposing direct or indirect taxes for the purposes of financing the budget, so more public debt and more burdens. In contrast to the corrupt country, the countries in which the rate of corruption is lower, the public debt is a tool to drive economic growth as presented by(Kim, E.et.al 2017)), because the money will go to the economic activities allocated to it, not to the pockets of corruption, which leads to an increase in the productivity of economic sectors and an increase Gross domestic product, therefore, the possibility of bearing and paying the burden of loans and achieving an economic surplus, which pushes the growth rate to rise.

The weakness of the country and the rampant corruption in it makes the possibility of tax evasion high, therefore the weakness of this revenue source, which increases the rise in public debt, thus structuring the sovereign debt, and this means higher interest rates on these debts, financial instability and an increase in the chance of non-payment, and consequently the negative impact on development Economic (Elgin & Uras.2013)

The existence of the shadow economy affects the financial policy tools and reduces its effect, and even has an impact on the monetary policy tools. Tax evasion, the black market for currency, bribery and others all loses the country's control over its tools that govern the economy and also weaken its resources, forcing it to make temporary patchwork solutions to solve economic crises without trying to solve the main causes, corruption that causes political and financial instability, which weaken the possibility of the government's commitment to pay the financial dues that it owes and doubles the economic crisis.

The possibility of repaying the public debt weakens in countries where the informal sector is spread. With the imposition of a tax, for example, to pay government obligations, the tax will be collected from the official sector only because workers in the other sector evade.

Therefore, this may lead to the transfer of workers from the formal sector to the informal sector to evade the payment thus distorts the economic structure more and doubles the possibility of non-payment (Amaral & Quintin, 2006)

The financial problem does not lie in the weakness of the tax base at all, but in the collection of this base regardless of the evasion and tolerances that are associated with those close to the authority, and even if the government tries to pay its debts through the pressure of public expenditure, this may worsen the problem and lead to the transfer of workers in the official sector to work in informal sector. This will be negatively reflected in an increase in corruption in its various forms and consequently a further decline in public revenues (Friedman et al. al, 2000) and resorting to public debt as a solution.

The decline in per capita income is a reason supporting corruption and the growth of the shadow economy. Low income means tax evasion and failure to disclose its true level on the one hand, and on the other hand, low income leads to resorting to bribery and thefts of public money, which doubles the corruption and this means general waste in expenditure and this is the indirect effect that says that corruption leads to a decrease in the gross domestic product due to a decrease in investment expenditures and a decrease in the general productivity of the economy, as well as a decrease in the revenue base. This is the direct effect of corruption and therefore more public debt and its burdens.

Studies indicate that the size of the shadow economy ranges from 15 to 40% for developed and developing countries, respectively, and this was confirmed by (Bitzenis, Vlachos, & Schneider, 2016) in his study on economic growth.

The spread of corruption works on the misallocation of resources and distorts foreign economic efficiency, which means a decrease in foreign investment (Cooray & Schneider, 2017)) and this is negatively reflected on the gross domestic product and its per capita share of it, thus decreasing growth and this pushes corruption to increase, and the response will be through more debts and their burdens.

It is worth noting that the increase in corruption and the public debt with its burdens and the difficulty of servicing this debt may lead to the government's inability to obtain a funding source, and this means that it may take improper measures for financing, especially since it lost its financial tools due to corruption. It might resorted to monetary tools such as cash issuance and the accompanying negatives or as the Iraqi government did by devaluation the exchange rate of its currency to reap more sums in order to finance its expenditures (Fawaz & Hamaad, 2021) and this was reflected negatively on the economic level from a rise in the inflation rate and a decrease in the real income of the individual, thus it will push corruption to the top.

Corruption has a causal relationship with economic indicators. It is a cause and a consequence as well. The decrease in the real investment rate means a decrease in the gross domestic product, and therefore a decrease in the per capita share of this product, and this may push people to search for illegal ways to obtain funds, and this exacerbates corruption.

Some economists argue about the importance of the existence of public debt that in the short term it is possible to increase the total production but in the long run it reduces investment and reflects negatively on economic growth. However, there is an opinion that argues this opinion by saying that according to economic rationality, individuals will hedge for any future burden by saving part of the money, and therefore neither investment nor economic growth

will be affected (Barro, 1974).

This opinion or this argument is possible in a hypothetical case or what is called Ricardian equivalence, and it is understandable in the developed countries but in the case of high-corruption countries, it is not applicable, because the debt does not go for investment or a real increase in the domestic product, and economic growth is declining, in addition to the fact that individuals do not have confidence in the economic situation or corrupt governments, thus investment declines and they also evade paying taxes, and this reflects negatively on the use of debt, the bearing of its burdens, and economic growth.

It is known that an increase of 10% of the public debt to the GDP will reduce by 0.1 to 0.2 the average economic growth (Kim & Kim, 2017).

A close look at the Iraqi economy shows us the growth of the internal and external public debt, and this is a result of political and economic imbalance and instability in the formulation of economic policy on the one hand, and to the rampant financial corruption in the economy on the other hand. Iraq has suffered and are suffering from a continuous waste of its public budgets, resulting from a miscalculation of the volume of revenues and expenditures as a result of mismanagement and collection of revenues on the one hand, and the inflation of the volume of public expenditures on the other hand, which is often wasted due to rampant corruption in the country. Iraq is at the forefront of the country classified in the high rate of corruption. The Index Perceptions Corruption issued by Transparency International indicates our occupation an advanced place among countries in corruption.

A close look at the country's general budget and its sections shows that most sections of the budget are financed through loans and that most of the funding is wasted in operational expenditures, not investment, which negatively affects the gross domestic product and the possibility of repaying these loans. Investment expenditures constitutes only a small part of the volume of public expenditures, unlike consumption-operation expenditures, which constitutes the largest part of the volume of these expenditures, and this reflects clear poor planning. Investment expenditures is ink on paper because it goes into the pockets of the corrupt. The political and economic instability that Iraq suffers from after 2003, in addition to corruption, poor economic planning, and the decline in development plans led to the exacerbation of the financial crisis and to the accumulation of the growth of public debt as a financing-operational factor no more, and the collapse of the productive structure, which exacerbated the country's crisis.

In this research, we study the relationship between the indicator of political stability and the volume of public debt and economic growth expressed in gross domestic product, using the ARDL model to prove the size of this effect. This calls for a review of the country's public financial policy, as well as a review of the political and legal measures that limit the phenomenon of corruption to reduce waste of resources and stop relying on borrowing as a financing solution, or at least invest and transferring this debt to the investment sector to try to advance the country's productive base, which will bring the economy out of the debt quagmire.

2. Literature Review

(Ozler & Tabellini, 1991) This study deals with the role of domestic political incentives in the accumulation of large external debts on developing countries during the period 1972-1981. The evidence indicates a positive impact of political instability on the demand for sovereign loans. Instability leads to a stronger preference for current government consumption

as opposed to future government consumption.

(Shleifer and Vishny ,1993) The study confirm that governments in which corruption is widespread work to direct funds to less productive sectors such as defense and unnecessary projects instead of investing in education and health projects, and this reflects negatively on the domestic product and thus its indebtedness.

(Mauro ,1998) The study questioned whether the spread of corruption distorts government spending and constitutes a great waste in it. It concluded that the spread of corruption leads to a decrease in spending on education, as it is an unattractive investment for those looking for quick and easy money. This means lower productivity and negatively reflects on growth and public debt

(Grechyna ,2010) The study examined the reasons for the accumulation of public debt in high-income countries and took a sample of 23 countries of the Organization for Economic Co-operation and Development , for the period 1995-2007 as a model and concluded that corruption, although it is less in the developed country , it is the biggest factor in the growth of public debt, and this generates more corruption and the blood of political stability.

(Kaufmann ,2010) The study found that by looking for higher quick profits, government officials tend to make large capital investments at the expense of the labor component.

(Cooray and Schneider ,2013) In a study of a sample of 106 countries for the period 1996-2012 ,they found that corruption affects the public debt and that whenever the scope of the informal economy expands, this increases and strengthens the relationship between corruption and public debt.

(Benfratello & Pennacchio ,2015) The study estimated the impact of corruption on public debt using a large sample of countries during the period 1995-2013. It was found and confirmed that public corruption contributes to increasing sovereign debt in a different way between the sample countries. The high impact of corruption on increasing expenditure is more important in the long run than its impact on growth, and it has been emphasized that the countries can reduce its debt by fighting corruption.

(Cooray & Schneider ,2017) The study's contribution is to find out whether the size of the shadow economy, government expenditures and military expenditures increase the negative impact of corruption on public debt. The study confirmed this negative impact and recommended that reducing corruption reduces government debt. They also confirmed that high government expenditure may increase corruption, thus more public debt.

(Kaplan & Akçoraoğlu ,2017) Using a sample of the countries of Organization for Economic Co-operation and Development, the study examined the impact of political instability and corruption on economic growth and found that political instability is negatively related to economic growth and that corruption negatively affects economic growth rates in OECD countries.

(Del Monte & Corruption ,2020) Using cross-sectional data for a sample of OECD countries for the period 1995-2015, the economic effects of corruption on public debt were studied and concluded that reducing corruption by half will lead to a decrease of 2% of public debt, and this applies to countries that has a high and low level of corruption. Therefore, the development of tools to control corruption can limit the size of the public debt of any of the

sample countries.

(Owusu-Nantwi & Owusu-Nantwi, 2021) This study examined the impact of corruption on the public debt of 51 African countries and found that there is a causal relationship between corruption and public debt and recommended the allocation of funds to combat corruption in order to reduce its impact on public debt

3. Data and Empirical Model

3-1 -Data

A time series data extending from 2004 to 2020 was used, and it includes political stability index X data, GDP data expressing the rate of economic growth, and public debt data TPD. All data on GDP and total public debt are from the annual bulletins of the Central Bank of Iraq and political stability data were collected through the Political Stability and Absence of Violence Index issued by the World Bank. These indicators were given scores or values ranging from (-2.5 to +2.5), and negative values up to the degree (-2.5) represent the worst cases, and positive values up to the degree (+2.5) represent the best cases, as shown in Appendix (1).

3-2 -Empirical Model

Autoregressive Distributed Lag (ARDL) Model has been applied in order to show the extent of the impact of political and security stability on the GDP and public debt in Iraq for the period (2004-2020), which is contained in Annex (1), this will be done according to the outputs of the econometrics program (Eviews) the ninth edition of the time series for the variables included in the model.

3-2-1 Characterization of the variables

The research variables are described according to the following table:

Table (1) Model Variables

Variables	Symbol	The Period
Political and security stability	X	2020-2004
Gross Domestic Product	LY1	
Public Debt	LY2	

3-2-2- The nature of the research data

The data for the time series of the research variables were converted from annual data to quarterly data, for the purpose of applying econometric methods that will give more accurate and objective results if the time series are long, as well as the natural logarithm of the dependent variables (GDP, public debt) were taken in order to homogenize the data, as the data of the independent variable (political and security stability) is a percentage, and the data of the dependent variables are absolute numbers.

3-2-3 -Unit Root Tests

Tables (2) and (3) show the results of unit root tests using the Augmented Dickey-Fuller (ADF) and the Phillip-Perron (PP) test for variables at the level and the first difference with an intercept, a Trend and Intercept, and without intercept and Trend and Intercept.

Table (2) Results of unit root tests for ADF test variables

UNIT ROOT TEST TABLE (ADF)				
At First Difference				
		X	LY1	LY2
With Constant	t-Statistic	-2.5694	-1.7863	-1.9005
	Prob.	0.1047	0.3841	0.3303
With Constant & Trend	t-Statistic	-2.7591	-1.343	-1.1694
	Prob.	0.2177	0.8683	0.9084
Without Constant & Trend	t-Statistic	-0.3965	-0.5838	0.225
	Prob.	0.5371	0.4608	0.7486
At First Difference				
With Constant	t-Statistic	d(X) -2.809	d(LY1) -8.0236	d(LY2) -8.1265
	Prob.	0.0627	0.0000	0.0000
With Constant & Trend	t-Statistic	-3.3447	-8.1678	-8.368
	Prob.	0.0685	0.0000	0.0000
Without Constant & Trend	t-Statistic	-2.8321	-8.0623	-8.0623
	Prob.	0.0053	0.0000	0.0000

Source: Prepared by researchers based on Eviews, the ninth edition.

It is clear from Table (2) that the time series of the variables are not static at the level, which means accepting the null hypothesis (H₀) which says that the time series are not static at the level, and rejecting the alternative hypothesis (H₁) which says that the time series are static at the level, so it can be said that these time series are not static of degree [I(0)] and contains the unit root.

Table (3) Results of Unit Root Tests for Research Variables (PP) Test

UNIT ROOT TEST TABLE (PP)				
At First Difference				
		X	LY1	LY2
With Constant	t-Statistic	-1.794	-1.8998	0.3802
	Prob.	0.3804	0.3306	0.9807
With Constant & Trend	t-Statistic	-1.343	-1.1577	-1.6958
	Prob.	0.8683	0.9107	0.7424
Without Constant & Trend	t-Statistic	-0.5838	0.225	1.0297
	Prob.	0.4608	0.7486	0.9189
At First Difference				
With Constant	t-Statistic	d(X) -8.0236	d(LY1) -8.1265	d(LY2) -8.1088
	Prob.	0.0000	0.0000	0.0000
With Constant & Trend	t-Statistic	-8.1691	-8.3918	-9.6154
	Prob.	0.0000	0.0000	0.0000
Without Constant & Trend	t-Statistic	-8.0623	-8.0623	-8.0623
	Prob.	0.0000	0.0000	0.0000

Source: Prepared by researchers based on Eviews, the ninth edition.

Since the time series of the variables under study contain a unit root, so the first differences were taken for them, as shown in Table (3), as it becomes clear that after taking the first differences of the time series became static, which means accepting the alternative hypothesis (H₁) which says that time series are static at the first differences, and reject the null hypothesis (H₀), which says that time series are not static at the first differences.

3-2-4 -The relationship between Political Stability and the Gross Domestic Product

3-2-4-1 -Initial assessment according to (ARDL) Model

Table (4) shows the results of the initial estimation of the ARDL model for the relationship between political stability and GDP.

Table (4) Results of the preliminary assessment according to the (ARDL) model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LY1(-1)	3.372774	0.087307	38.63101	0.0000
LY1(-2)	-4.5695	0.237622	-19.2301	0.0000
LY1(-3)	2.940674	0.2371	12.4027	0.0000
LY1(-4)	-0.75417	0.085302	-8.84112	0.0000
X	0.015423	0.006733	2.290697	0.0260
X (-1)	-0.02784	0.01293	-2.15312	0.0359
X (-2)	0.014972	0.006901	2.169651	0.0345
C	0.045482	0.012864	3.535568	0.0009
R-squared	0.999889	Mean dependent var		5.037323
Adjusted R-squared	0.999875	S.D. dependent var		0.419702
S.E. of regression	0.0047	Akaike info criterion		-7.76084
Sum squared resid	0.001171	Schwarz criterion		-7.48401
Log likelihood	244.7057	Hannan-Quinn criter.		-7.65235
F-statistic	68345.74	Durbin-Watson stat		1.638187
Prob(F-statistic)	0.0000			

Source: Prepared by researchers based on Eviews, the ninth edition.

Table (4) shows that the coefficient of determination amounted to (99%), and that the Adjusted Coefficient of Determination (Adjusted R-squared) was (99%), which gives explanatory power to the model, as the independent variable (political stability) explains (99%) of the changes that occur in dependent variables (GDP).

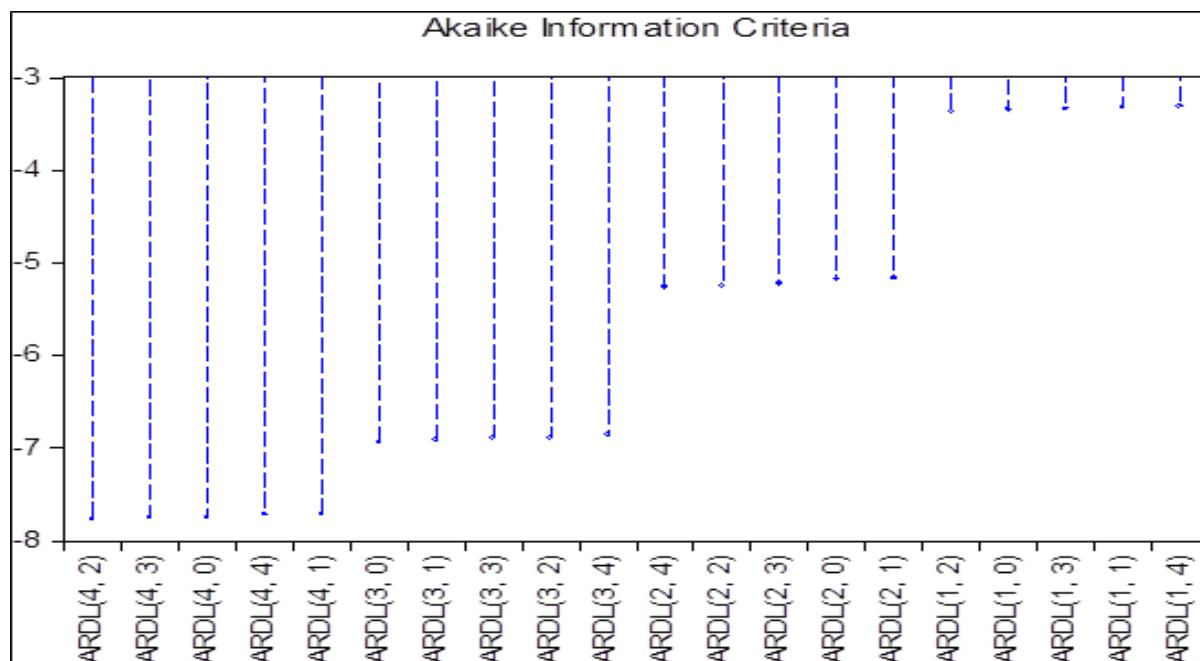


Figure (1) The Optimal Lag Length Period Test Between the Variables

Source: Prepared by researchers based on Eviews, the ninth edition.

3-2-4-2 -The Optimal Lag Length Test

It is noted from Figure (1) that the model that was selected according to the ARDL methodology is from the order (4, 2), as the lag length periods, as in the figure, refer to the variables (LY1, X) respectively, and the optimal lag length period that gives the lowest value is chosen for the criteria used.

3-2-4-3- Bounds Test of the relationship between variables

In order to test the extent of a long-term relationship between the independent variable (political stability) and the dependent variables (GDP), the statistic (F) is calculated, and Table (5) shows the results of the Bound test of ARDL model.

Table (5) Bounds test Results

Test Statistic	Value	K
F-statistic	6.677867	1
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	4.040	4.780
5%	4.940	5.730
2.50%	5.770	6.680
1%	6.840	7.840

Source: Prepared by researchers based on Eviews, the ninth edition.

The results of Table (5) show that the calculated value of the (F) statistic is (6.677867), which is greater than the critical (F) value at its upper limit at the (5%) level, thus we reject the null hypothesis and accept the alternative hypothesis, and this means that there is a co-integration relationship between the variables during the research period.

3-2-4-4- Estimation of the short-term and long-term parameters and the error-correction parameter

In order to make sure that there is a co-integration relationship between the variables, the short and long-term estimators of the estimated model parameters and the error correction parameter should be obtained, and Table (6) shows this

Table (6) results of estimating the short-term and long-term parameters and the error correction parameter

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LY1(-1))	2.382995	0.08581	27.77055	0.0000
D(LY1(-2))	-2.18651	0.15337	-14.2564	0.0000
D(LY1(-3))	0.754166	0.085302	8.841124	0.0000
D(X)	0.015423	0.006733	2.290697	0.0260
D (X (-1))	-0.01497	0.006901	-2.16965	0.0345
CointEq (-1)	-0.01022	0.002809	-3.63883	0.0006
Cointeq = LY1 - (0.2501*X + 4.4497)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	0.250087	0.05189	4.81957	0.0000
C	4.449749	0.160864	27.66164	0.0000

Source: Prepared by researchers based on Eviews, the ninth edition.

The results of Table (6) indicate the existence of a long-term co-integration between the indicators of political stability and the rate of GDP, because the error correction parameter (-0.01) is negative and statistically significant at the level (1%), as the error correction coefficient expresses the speed of adjustment between the short term and the long-term, which requires it to be negative and significant in order to provide evidence of a long-term relationship between the variables, and through the results, the value of the error correction coefficient shows that it is significant and has a negative value. The short- and long-term relationships

between the variables can be explained as follows:

3-2-4-4-1 -Short-term relationship

The results of Table (6) show the existence of a direct, short-term, significant relationship between the variables, that is, the presence of a direct, significant effect of political stability on the gross domestic product in the short term at a level of significance (5%), which means that the increase in political stability by (1%) leads to an increase in GDP by (0.01), conversely, a decrease in political and security stability by (1%) leads to a decrease in GDP by (0.015).

3-2-4-4-2 -Long-term relationship

The results show the existence of a positive long-term significant relationship between the variables, i.e. the presence of a direct significant effect of political stability on the gross domestic product in the short term at a level of significance less than (1%), which means that the increase in political stability by (1%) leads to an increase in GDP by (0.25) and on the contrary, a decrease in political stability by (1%) leads to a decrease in GDP by (0.25). These results are consistent with the economic theory, as the stability of the political conditions is reflected in the improvement of economic conditions.

3-2-4-5 -Standard Model Quality Tests

After estimating ARDL tests, it is necessary to ensure the quality of the performance of the model and its safety from econometrics problems, by using the following tests:

3-2-4-5-1 -Heteroskedasticity Test: ARCH

It is clear from Table (7) that the model does not suffer from the problem of heterogeneity because the calculated (F) value amounted to (1.988347) at the probability level (0.1639), which was not significant at the (5%) level, and this means that the estimated model is free from the problem of heterogeneity.

Table (7) Heteroskedasticity Test: ARCH

Heteroskedasticity Test: ARCH			
F-statistic	1.988347	Prob. F (1,58)	0.1639
Obs*R-squared	1.988733	Prob. Chi-Square (1)	0.1585

Source: Prepared by researchers based on Eviews, the ninth edition.

3-2-4-5-2 -Serial Correlation LM test

Table (8) shows that the test results proved the validity and quality of the estimated model; Because the calculated (F) value reached (2.154475) at the probability level (0.1264), which was not significant at the (5%) level, and this means that the estimated model is free of the problem of the serial correlation between the residuals.

Table (8) Serial Correlation LM test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.154475	Prob. F (2,51)	0.1264
Obs*R-squared	4.752322	Prob. Chi-Square (2)	0.0929

Source: Prepared by researchers based on Eviews, the ninth edition.

3-2-5 -The relationship between political stability and public debt

3-2-5-1 -Initial assessment according to (ARDL) form

Table (9) shows the results of the initial assessment of ARDL model for the relationship between political stability and public debt.

Table (9) Results of the preliminary assessment according to the (ARDL) model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LY2(-1)	3.309487	0.093321	35.46329	0.0000
LY2(-2)	-4.40676	0.250904	-17.5635	0.0000
LY2(-3)	2.793214	0.246835	11.31613	0.0000
LY2(-4)	-0.70944	0.088514	-8.01494	0.0000
X	-2.10706	0.763347	-2.76029	0.0080
X (-1)	8.000903	2.649937	3.01928	0.0040
X (-2)	-11.636	3.859281	-3.01507	0.0040
X (-3)	8.016738	2.808275	2.854684	0.0062
X (-4)	-2.31245	0.857487	-2.69678	0.0095
C	0.194986	0.075458	2.584026	0.0127
R-squared	0.999669	Mean dependent var		2.429788
Adjusted R-squared	0.99961	S.D. dependent var		1.35156
S.E. of regression	0.026679	Akaike info criterion		-4.26106
Sum squared resid	0.0363	Schwarz criterion		-3.91501
Log likelihood	139.9622	Hannan-Quinn criter.		-4.12544
F-statistic	17103.9	Durbin-Watson stat		1.578744
Prob(F-statistic)	0.0000			

Source: Prepared by researchers based on Eviews, the ninth edition.

Table (9) shows that the coefficient of determination amounted to (99%), and that adjusted coefficient of determination (Adjusted R-squared) amounted to (99%), which gives explanatory power to the model, as the independent variable (political stability) explains (99%) of the changes that occur in dependent variables (public debt).

2-3-5-2 -Optimal Lag length Test

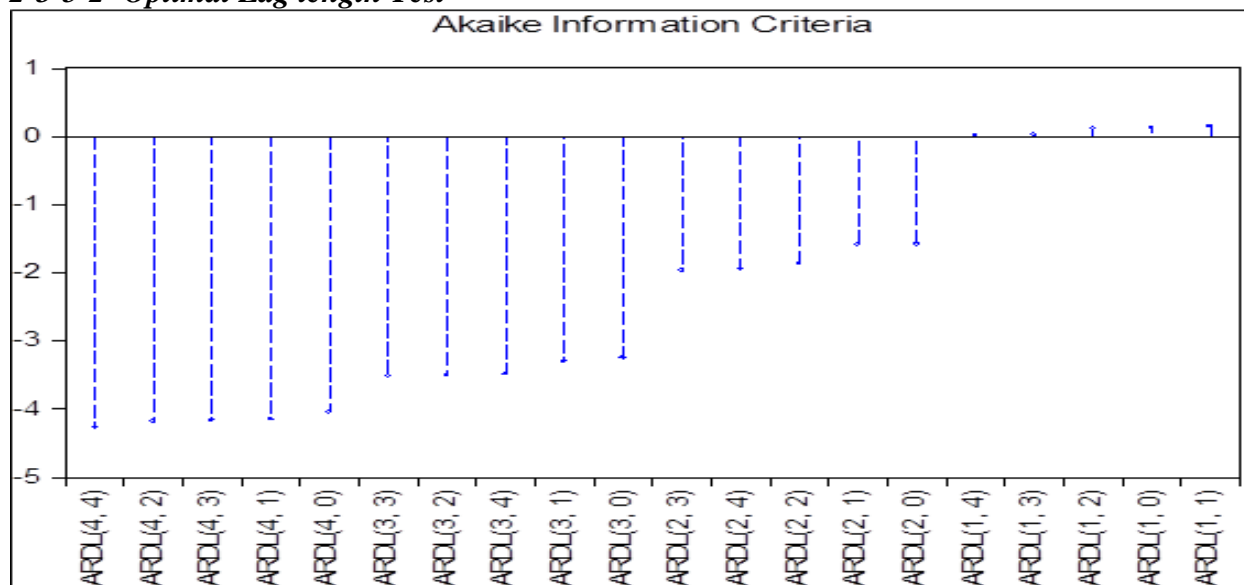


Figure (2) The optimal Lag Length Test for the relationship between the variables

Source: Prepared by researchers based on Eviews, the ninth edition.

It is noted from Figure (2) that the model that was selected according to the ARDL methodology is from the order (4, 4), as the Lag length, as in the figure, refer to the variables (LY2, X) respectively, and the optimal lag length that gives the lowest value is chosen for the criteria used.

3-2-5-3 -Bound test of the relationship between variables

In order to test the existence of a long-term relationship between the independent variable (political stability) and the dependent variables (Public debt), the statistic (F) is calculated, and Table (10) shows the results of the Bound test of the ARDL model.

Table (10) results of Border Test

Test Statistic	Value	K	
F-statistic	5.765748	1	
	Critical Value Bounds		
Significance	I0 Bound	I1 Bound	
10%	4.040	4.780	
5%	4.940	5.730	
2.50%	5.770	6.680	
1%	6.840	7.840	

Source: Prepared by researchers based on Eviews, the ninth edition.

The results of Table (10) show that the estimated value of (F) statistic is equal to (5.765748), which is greater than the critical (F) value at its upper limit at the (5%) level. Thus, we reject the null hypothesis and accept the alternative hypothesis, and this means that there is a co-integration relationship between the variables during the research period.

3-2-5-4 -Estimation of the short-term and long-term parameters and the error-correction parameter

In order to ensure that there is a co-integration relationship between the variables, the short and long-term estimators of the estimated model parameters and the error correction parameter should be obtained, and Table (11) shows this.

Table (11) Results of estimating the short-term and long-term parameters and the error correction parameter

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LY2(-1))	2.322981	0.092365	25.14999	0.0000
D(LY2(-2))	-2.08378	0.160136	-13.0125	0.0000
D(LY2(-3))	0.709436	0.088514	8.014937	0.0000
D(X)	-2.10706	0.763347	-2.76029	0.0080
D (X (-1))	11.636	3.859281	3.015069	0.0040
D (X (-2))	-8.01674	2.808275	-2.85468	0.0062
D (X (-3))	2.312451	0.857487	2.696777	0.0095
CointEq(-1)	-0.01349	0.004132	-3.26544	0.0020
Cointeq = LY2 - (-2.8064*X + 14.4499)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LY2	-2.80639	1.126058	-2.49223	0.016
C	14.4499	4.886099	2.95735	0.0047

Source: Prepared by researchers based on Eviews, the ninth edition.

The results of Table (11) indicate the existence of a long-term co-integration between the indicators of political stability and public debt, because the error correction parameter (-0.01) is negative and statistically significant at the level (5%), as the error correction coefficient expresses the speed of adjustment between the short and long term, which requires that it be negative and significant in order to provide evidence of a long-term relationship between the variables, and through the results the value of the error correction coefficient appears to be significant and of a negative value. The short- and long-term relationships between the variables can be explained as follows:

3-2-5-4-1 -Short-term relationship

The results of the above table show that there is a short-term inverse significant relationship between the variables, and this means that there is an inverse significant effect of political and security stability on public debt in the short term at the level of significance (5%), which means that an increase in political stability by (1%) leads to a decrease in public debt by (2.10) and on the contrary, a decrease in political and security stability by (1%) leads to an increase in the total public debt by (2.10)

3-2-5-4-2 -Long-term relationship

The results of the above table show the existence of a short-term inverse significant relationship between the variables, i.e. the existence of an inverse significant effect of political stability on the long-term public debt at the level of significance (5%), which means that an increase in political stability by (1%) leads to a decrease Public debt by (2.80) and conversely, a decrease in political and security stability by (1%) leads to an increase in the total public debt by (2.80) These results are consistent with the economic theory, as the stability of the political and security conditions is reflected in the improvement of economic conditions.

3-2-5-5 -Standard Model Quality Tests

After estimating ARDL model tests, it is necessary to ensure the quality of the performance of the model and its safety from econometrics problems, by using the following tests:

3-2-5-5-1 -Heteroskedasticity Test: ARCH

It is clear from table (12) that the model does not suffer from the problem of heterogeneity, because the calculated (F) value reached (1.917429) at the probability level (0.1714), which was not significant at the (5%) level, and this means that the estimated model is free from the problem of heterogeneity.

Table (12) Heteroskedasticity Test: ARCH

Heteroskedasticity Test: ARCH			
F-statistic	1.917429	Prob. F (1,58)	0.1714
Obs*R-squared	1.920071	Prob. Chi-Square (1)	0.1658

Source: Prepared by researchers based on Eviews, the ninth edition.

3-2-5-5-2 -Serial Correlation LM Test

Table (13) shows that the test results proved the validity and quality of the estimated model; because the calculated (F) value reached (1.703921) at the probability level (0.1924), which was not significant at the (5%) level, and this means that the estimated model is free of the problem of the serial correlation between the residuals.

Table (13) The Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.703921	Prob. F (2,50)	0.1924
Obs*R-squared	3.892282	Prob. Chi-Square (2)	0.1428

Source: Prepared by researchers based on Eviews, the ninth edition.

Conclusions

The degrees of the political stability index were very low and negative for all the years of the study (2004-2020) as a result of the deterioration of the political and security conditions, which negatively affected the high amount of public debt, and the imbalance in GDP growth

in favor of the mining sector (crude oil), which is the main sector in economy financing. The results of the econometric analysis showed a direct significant effect of the indicator of political stability on the gross domestic product in the short and long term, and the presence of a negative significant effect of political stability on public debt in the short and long term. These results are identical to the economic theory. These results are compatible with the economic theory, as the stability of the political and security conditions is reflected in the improvement of economic growth in favor of other sectors, reducing the volume of public debt and improving its optimal utilization.

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- Word Bank (2020), Worldwide Governance Indicators, available at www.govindicators.org.
- Appendix (1) The evolution of the indicator of political stability and the absence of violence in Iraq for the period(2020-2004)
- Source: Word Bank (2020), Worldwide Governance Indicators, available at www.govindicators.org.

Years	Degree of political stability and absence of violence (-	Ranking among the countries of the world
	2.5 - +2.5)	(0-100)
2004	2.18 -	0.00
2005	2.69 -	0.49
2006	2.83 -	0.00
2007	2.77 -	0.48
2008	2.47 -	1.92
2009	2.18 -	2.37
2010	2.24 -	2.37
2011	1.85 -	4.27
2012	1.93 -	4.74
2013	2.01 -	4.27
2014	2.48 -	2.38
2015	2.26 -	2.86
2016	2.31 -	3.33
2017	2.31 -	3.33
2018	2.56 -	1.43
2019	2.56 -	1.90
2020	2.56 -	1.70