

# **The Impact of Government Spending on Economic Diversification for the Period (2004-2019) and its Reflection on the Path of Rehabilitation of the Iraqi Economy**

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## **Abstract**

The research aims to measure and analyze the relationship between government spending and economic diversification in Iraq for the period (2004-2019), using the ARDL model. The research concluded that there is a long-term positive equilibrium relationship between investment spending and economic diversification in Iraq. When investment spending increases by (1%), this will lead to an increase in economic diversification by (0.23%), assuming that operating spending is stable, and the opposite happens in the case of decline. In addition to the existence of a long-term inverse equilibrium relationship between operating spending and economic diversification in Iraq, as an increase in operating spending by (1%) will lead to a decrease in economic diversification by (0.73%), assuming the stability of investment spending, and the opposite will happen in the event of decline.

## **Keywords**

Investment Spending, Operating Spending, Economic Diversification, ARDL, Iraq.

## **Introduction**

Research problem: The research problem revolves around the following question:

Is there a relationship between government spending and economic diversification in Iraq?

**Research hypothesis:** The research starts from two hypotheses:

1. The existence of a long-term positive equilibrium relationship between investment spending and economic diversification in Iraq.
2. The existence of a long-term inverse equilibrium relationship between operating spending and economic diversification in Iraq.

**Research objectives:** The research aims to achieve the following objectives:

1. The extent of the impact of investment spending on economic diversification in Iraq for the period (2004-2019).
2. The extent of the impact of operating spending on economic diversification in Iraq for the period (2004-2019).
3. Knowing how quickly the system responds to return to equilibrium in the event of a shock.

**Research methodology:** The research is based on the deductive approach to find out the extent of the impact of government spending on economic diversification in Iraq by using economic measurement methods (ARDL methodology).

**Importance of the research:** The importance of the research lies in its demonstration of the feasibility of operating spending for the period (2004-2019), which the Iraqi government seeks to increase in order to reduce unemployment rates in the economy at the expense of the continuous reduction of investment spending.

## **A Theoretical Introduction to the Concepts of Research Variables**

### **1) The Concept of Government Spending**

Governmental spending are those expenditures carried out by some private or mixed facilities that the state delegates to some of its commanding powers. Therefore, its definition refers to the extent to which the public sector participates in the rehabilitation of the national economy, and the broad definition of public expenditures includes all expenditures carried out by the state and its central, local and productive public establishments (Janabi, 2019). As government spending is defined as an important tool of

fiscal policy tools used by the government in order to satisfy the general community needs and achieve its objectives, and despite the fact that government spending enables the government to conduct its organs and management and reflects significantly the effectiveness of the government and the extent of its impact on economic activity, and the State By using amounts of money for the purpose of achieving public benefit, government spending can be considered as a monetary amount that you spend. Public expenditure in this definition includes three elements: (Sheibi, 2020).

- Public expenditure is an amount of money.
- The issuance of public alimony from the state or one of its public bodies.
- The main element of the public expenditure is the use of an amount of cash.

## **2) Features of Government Spending**

Government spending is characterized by characteristics and features that seek to bring about a development renaissance for the reality of the Iraqi economy, achieve popular goals and demands, and satisfy public needs, and among these features are: (Hussein, 2019).

- Government spending seeks to achieve the principle of equality among individuals when evaluating their performance and calculating their salaries.
- It shows the reflection of government spending on the lives of citizens and on all economic, social and political levels.
- It is also characterized by providing solutions to economic problems during the recession and recovery period through policies that work towards increasing effective demand by employing large numbers of workers in times of depression and those workers who will spend them on goods and services not satisfying their needs from them, which means an increase in demand and then the increase in demand. The increase in distributed income leads to a further increase in the effective demand, which leads to the absorption of the supply of goods and services in the market on the one hand, and to the preparation of projects to expand their production on the other hand, and thus increase the rates of economic growth.
- It addresses the fluctuations that occur in the economy, especially in the event of recession, as it leads to an increase in the national income and allows the state to increase the amount of it deducts from it in the form of general costs or burdens in terms of taxes and fees, and this leads to the increase in the growth of taxes and fees. In reducing government spending as a tool to curb inflation.
- Achieving the principle of fairness in distributing financial burdens for the benefit of members of society when covering public expenditures.

- Formulating general rules for conducting public spending policy in a manner that achieves the state's economic policy.
- It aims to increase income and maintain its stability through the expansion of government spending as well as private spending, thus increasing purchases of goods and services, thus generating a demand for capital, organization and innovation.

### **3) Types of Government Spending**

#### **• Government Investment Spending**

This spending is linked to a specific and specific period of time through extraordinary financing sources such as loans and cash issuance. Unemployment and economic revitalization expenditures, government investment spending is mainly based on spending in infrastructure, as well as on productive projects, and there is a large overlap between them, which made them complementary, due to the lack of separation between the direct and indirect effects of each category on generating value and raising the value. (Benin, 2019).

#### **• Operating Spending**

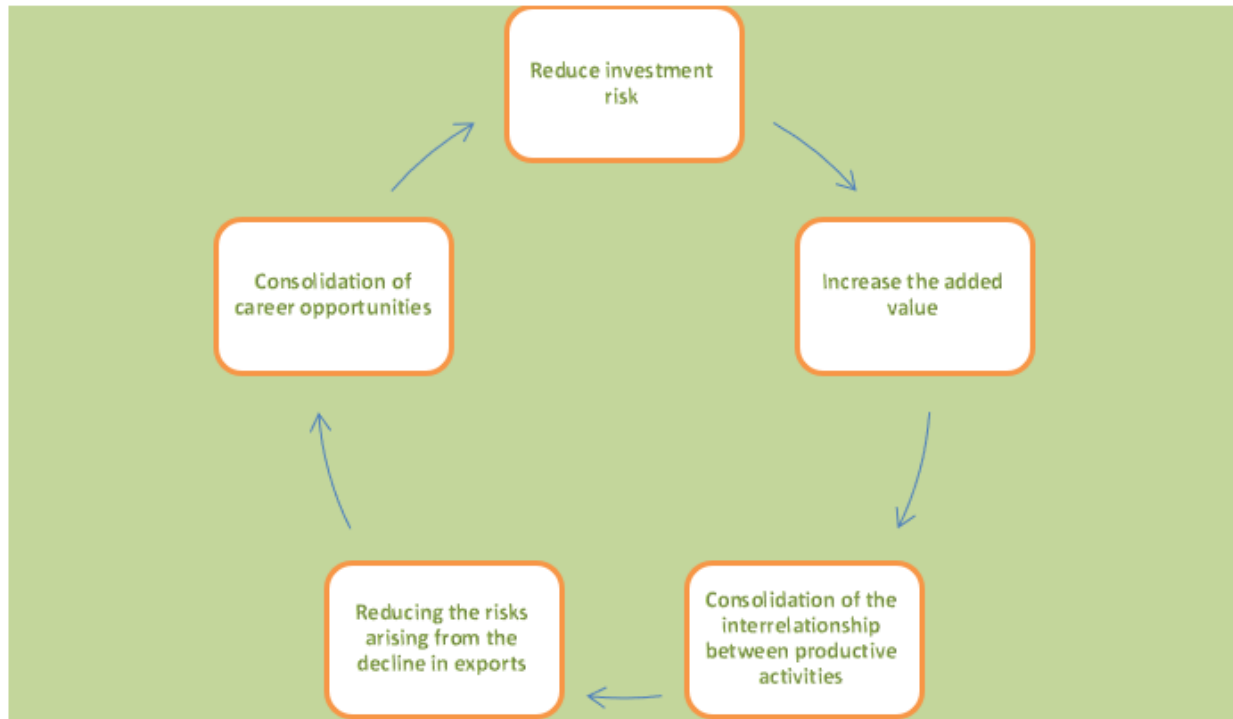
This type of expenditure includes salaries, wages, remuneration, transportation expenses and other expenses for the purpose of running the government administrative apparatus, which constitute a large part of the total government spending.

### **4) Economic Diversification (Concept, Importance)**

Economic diversification is a process aimed at diversifying the production structure and generating new sectors, which pushes towards reducing the total dependence on revenues from the main sector (the oil sector). This will lead to higher growth rates in the long run, as economic diversification means working to increase the contribution of the productive sectors to the GDP, diversifying exports, and activating taxes in a particular economy to reduce the risks that one could be exposed to if a single economy is dependent on a single economy.

There are two ideological trends that explain the relationship between diversification and economic growth. The first trend is represented in the theory of the comparative advantages of economist David Ricardo who looks at specialization (the decrease in the degree of economic diversification) as a catalyst and a source for economic growth.

Production and exports have negative effects on economic growth, thus calling for an increase in the degree of economic diversification and the lack of concentration of production and exports in a small number of products, sectors and activities. The owners of the idea of the necessity of economic diversification rely on the reasons stated as follows: (Ahmad, 2018).



**Figure 1 Reasons for economic diversification**

Source: From the work of researchers

The second requirement: measuring and analyzing the relationship between government spending and economic diversification in Iraq for the period (2004-2019).

### 1. Model Description

The research will analyze the relationship between operating spending, investment spending and economic diversification in Iraq, as economic diversification as a dependent variable (ED), and operating and investment spending represent two independent variables (IE, OE). The general form of the model is determined according to the following equation:

$$ED = f(OE, IE) \tag{1}$$

$$\Delta ED_t = C + \sum_{t-1}^n \alpha_1 ED_{t-1} + \sum_{t-1}^n \alpha_2 OE_{t-1} + \sum_{t-1}^n \alpha_3 IE_{t-1} + \beta_1 ED + \beta_2 OE + \beta_3 IE + \mu_t \tag{2}$$

As:

ED: Economic diversification.

OE: operating spending.

IE: investment spending.

$\Delta$ : the first difference of the variable.

C: Fixed limit.

N: The upper limit for the duration of optimal slowdowns.

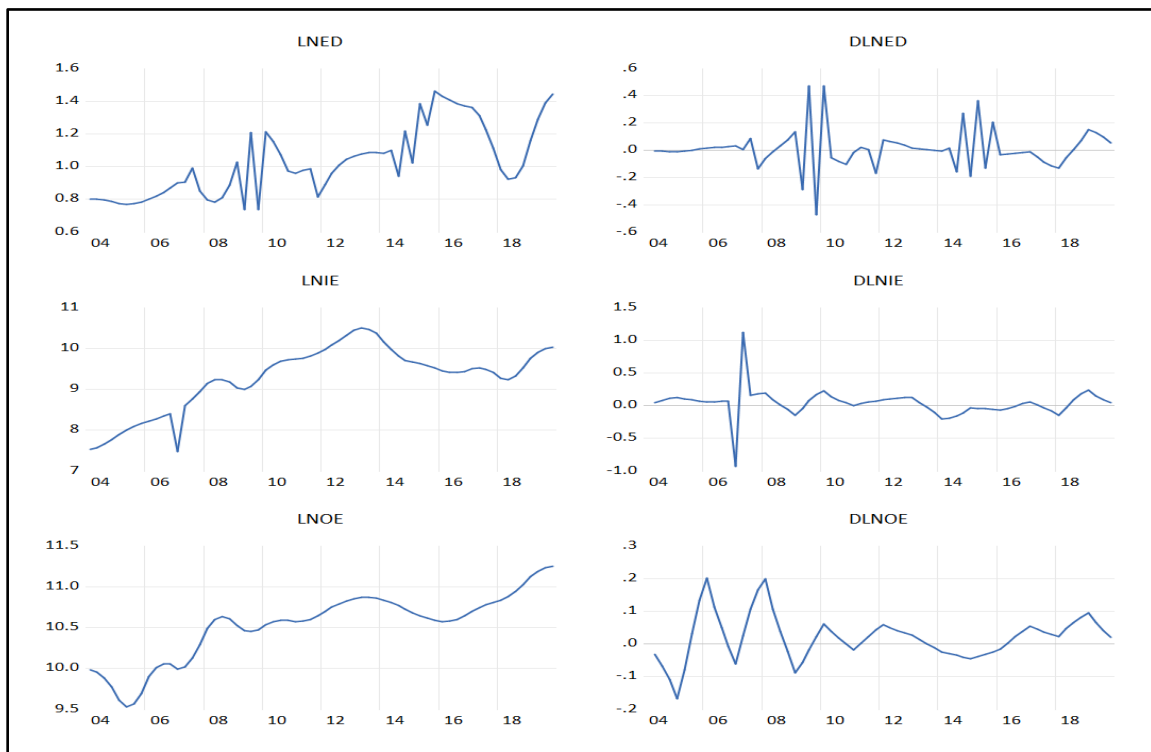
$\alpha_1, \alpha_2, \alpha_3$ : the slope in the short term.

$\beta_1, \beta_2, \beta_3$ : the slope in the long term.

$\mu t$ : the random error limit.

## 2. Data

Data were used for the Economic Diversification Index (ED) according to (Herfindahl - Hirschman), and operating and investment spending (IE and OE) respectively. In millions of US dollars at current prices, these data have been converted into quarterly (quarterly) data for the period (2019.Q4 - 2004.Q1) using the Denton method and by taking the natural logarithm and thus the number of observations is (64) views, and the data appears according to the graph (1) The following:



**Figure 2 Economic diversification (ED), operating spending (OE) and investment spending (IE) for the period (Q1.2004- Q4.2019)**

**Source:** From the work of researchers based on the statistical program (Eviews 12)

### 3. Unit Root Tests

It can be seen from Table (1) below that the time series for economic diversification (LnED), operating spending (LnOE) and investment spending (LnIE) are static (Stationarity) at the first difference [I (1)], where the statistic value is (T) For both tests (ADF and PP) greater than the tabular, in addition to the value of (P - Value) less than (5%), which means rejecting the assumption of nullity that the time series is not static and accepting the alternative hypothesis with the dormancy of the time series.

**Table 1 ADF, PP test**

* (Level)		1 <sup>st</sup> difference										
Variable Tests	LnED		LnIE		LnOE		LnED		LnED		LnOE	
	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob
ADF	-1.473	0.541	2.053-	0.264	-0.828	0.803	-15.699	0.000	-9.106	0.000	3.036-	0.038
PP	-1.973	0.298	2.060-	0.261	-0.663	0.848	-14.194	0.000	-9.032	0.000	3.000-	0.040

Source: From the work of researchers based on the statistical program (Eviews12).

Notes: \* The model at the level includes the boundary of the intersection (Intercept), as well as at the first difference.

### 4. Estimating the Model

**Table 2 Results of estimating the ARDL model**

ARDL Model				
Dependent Variable: D(LNED)				
Variable	Coefficient	Std. Error	t-Statistic	Prob
D(LNED(-1))	-0.543365	0.131387	-4.135605	0.0001
D(LNED(-2))	0.306261	0.146928	2.084434	0.0424
D(LNED(-3))	-0.028934	0.155405	-0.186183	0.8531
D(LNED(-4))	-0.238224	0.136113	-1.750197	0.0863
D(LNIE)	0.212888	0.089952	2.366699	0.0219
D(LNIE(-1))	0.125570	0.080178	1.566126	0.1238
D(LNOE)	-2.150432	0.734290	-2.928587	0.0052
D(LNOE(-1))	2.273748	0.952914	2.386099	0.0209
D(LNOE(-2))	-1.217915	0.593083	-2.053531	0.0454
C	0.033454	0.017625	1.898075	0.0636
CointEq(-1)	-1.504262	0.301804	-4.984240	0.0000
Long-run estimates				

D(LNIE)	0.224999	0.094328	2.385294	0.0210				
D(LNOE)	-0.727665	0.277980	-2.617687	0.0117				
C	0.022239	0.011489	1.935656	0.0587				
Model diagnostics								
R – squared	0.541							
Adjusted R – squared	0.457							
F – statistic	6.418 (0.000)							
Breusch – Godfrey	0.189 (0.910)							
Breusch – Pagan – Godfrey	8.702 (0.465)							
Jarque – Bera	1.720 (0.423)							
Ramsey RESET	0.642 (0.427)							
CUSUM & CUSUM – squared								
F-Bounds Test	Asymptotic: n=1000							
	% 10		% 5		% 2.5		% 1	
	Max	Min	Max	Min	Max	Min	Max	Min
5.852354	3.35	2.63	3.87	3.1	4.38	3.55	5	4.13
	Finite Sample: n=60							
	% 10		% 5		% 1			
	Max	Min	Max	Min	Max	Min	Max	Min
3.465	2.738	4.07	3.288	5.59	4.558			

Source: From the work of researchers based on the statistical program (Eviews12).

It can be seen from Table (2) above that the two variables (LnOE and LnIE) (investment spending, operating spending), respectively, are significant in the long term, as the value of the T-statistic is greater than the tabular, in addition to (P - Value) less than (5). %, Which means rejecting the null hypothesis and accepting the alternative assumption; If investment spending increases by (1%), it will lead to an increase in economic diversification by (0.22%), and the opposite will happen in the case of decline, while an increase in operating spending by (1%) will lead to a decrease in economic diversification by (0.728%), and the opposite will happen in The condition of decline, and the F-Bounds Test of (5.852) confirms that it is greater than all the higher values and for all levels of significance (10%, 5%, 1%), which means rejecting the null hypothesis and accepting the



alternative hypothesis by the existence of a long-term relationship, and if any Short-term imbalance from the long-term equilibrium, the error correction model is the one that prepares the equilibrium quickly (-1.504) quarterly, which means that (150.4%) of the imbalance in the shock of the last quarter is corrected in the current quarter.

The model is also statistically acceptable, as it reaches a statistical value (F) (6.418) and its (P - Value) value (0.000), which is less than (5%), which means rejecting the null hypothesis and accepting the alternative hypothesis in the sense of the model as a whole, and the rest of the model does not suffer. From the problem of serial correlation as proven by the (Breusch - Godfrey) test, where the (P-Value) of (Obs \* R-Squared) is equal to  $(x^2(2) = 91\%)$ , which is greater than (5%), which means accepting the null hypothesis. The alternative hypothesis is rejected, in addition to the fact that the rest of the model does not suffer from the problem of inconsistency of variance as illustrated by the Breusch - Pagan - Godfrey test, where the value of (P-Value) for (Obs \* R-Squared) is equal to  $(x^2(5) = 46.5\%)$ . It is greater than (5%), which means accepting the null hypothesis and rejecting the alternative hypothesis, and the rest of the model is naturally distributed as evidenced by the (Jarque - Bera) test, where its value is (1.72) and the value (P-value) is (0.423), which means acceptance. The null hypothesis and the rejection of the alternative hypothesis, and the model is well-described as illustrated by the Ramsey Regression Equation Specification Error Test, where the value of the statistic is F (0.642) and the (P-Value) (42.7%), which is greater than (5%), which means rejection of the null hypothesis and acceptance of the alternative hypothesis that the model does not suffer from a problem of misrepresentation, in addition to that the model parameters are stable (as shown by my test) CUSUM & CUSUM - squared), as the estimate line lies between the limits of confidence, which means acceptance of the null hypothesis and the rejection of the alternative hypothesis.

### **The Path of Rehabilitation of the Iraqi Economy**

The general path of rehabilitating the Iraqi economy appears in a way that is not sustainable and at all economic, social and environmental levels, which is mainly related to the insufficiency or insufficiency of the continuity of the pace of structural transformation and the building of economic activities in various paths. In fact, diversity constitutes a way out to rehabilitate and adjust the course of the Iraqi economy. This diversity is accompanied by policies, programs, mechanisms, and a distinctive governmental role through the formulation and implementation of a disciplined system. Therefore, Iraq must strengthen the management and allocation of its oil wealth and public resources by generating opportunities to maximize rentier revenues as a short-term

solution, which is as a result of the current political settlement of Iraq to achieve growth in production and export. Permanent revenues, as the path to rehabilitating the Iraqi economy is based on a diversified economy, meaning building a real production base, by directing attention to transformative industries, as well as extractive industries and industries with absolute advantage, food and service, and industries with a competitive advantage such as assembly, participation and concession industries for the purpose of self-sufficiency and export. This requires management and a walk A broad company for the private sector while maintaining the state's role in the process of guidance, support and legislation. (Doway, 2011)

This requires short-term measures, including: (Hassan, 2017).

1. Reforming the tax system and defining a new tax structure consistent with the mandated capacity of people and institutions.
2. Restructuring of state-owned industries and a gradual shift towards the private sector.
3. Rationalizing financial resources by controlling operational expenditures.
4. Mobilizing domestic savings.

As for the long-term measures, they include:

1. Establishing a sovereign wealth fund.
2. Revitalizing economic sectors.
3. Investment in the fields of information and communication technology.

In order to achieve this qualification path, a program is being built that aims to enhance and diversify the economy as follows:

**Table 3 The course and results of qualification for economic diversification**

Qualification track	Results
1- Enhancing the contribution of the private sector to the national economy. 2- Encouraging small and medium private enterprises. 3- Reforming laws related to the private sector. 4- Paying attention to the agricultural sector and rebuilding it. Historically, food security was a safety valve for the experiences of developed countries. 5- Increasing the contribution of tourism activity.	Strengthening and diversifying the Iraqi economy and expanding the activities of the financing sector.

Source: From the work of researchers.

## **Conclusions**

1. The existence of a long-term positive equilibrium relationship between investment spending and economic diversification in Iraq.
2. The existence of a long-term inverse equilibrium relationship between operating spending and economic diversification in Iraq.
3. An increase in investment spending by a certain percentage will lead to an increase in the economic diversification of Iraq by about a quarter of this percentage, while an increase in operating spending by a certain percentage will lead to a decrease in the economic diversification of Iraq by about three quarters of this percentage, and the opposite will happen in the case of decline.

## **Recommendations**

1. Working to increase investment spending in the general budget of Iraq and directing these expenditures towards infrastructure projects, the agricultural sector, and the energy and petrochemical sectors, given that Iraq has a comparative advantage in it, as well as because of the importance of these sectors in creating front and back links in the economy.
2. Work to reduce operational spending, which is a consumption of oil revenue (depleted resource revenue), adopt standards for efficiency performance in the public sector, and work to increase the productivity of the public sector to avoid the negative effects of operational spending.

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**Appendix 1 Economic diversification (ED), operating spending (OE) and investment spending (IE) for the period (2019.Q4 - 2004. Q1)**

<b>Time</b>	<b>LNED</b>	<b>LNIE</b>	<b>LNOE</b>
2004Q1	0.803175	7.533819	9.986486
2004Q2	0.800414	7.576647	9.954668
2004Q3	0.794916	7.657164	9.887823
2004Q4	0.786726	7.766952	9.778350
2005Q1	0.775908	7.896781	9.610815
2005Q2	0.771861	8.001859	9.531779
2005Q3	0.774502	8.087928	9.564148
2005Q4	0.783885	8.158775	9.698090
2006Q1	0.800201	8.217010	9.899283
2006Q2	0.819647	8.279057	10.01193
2006Q3	0.842403	8.344051	10.06093
2006Q4	0.868691	8.411223	10.05514
2007Q1	0.898783	7.479903	9.993543
2007Q2	0.906180	8.604525	10.01944
2007Q3	0.990379	8.766425	10.12653
2007Q4	0.852447	8.948156	10.29217
2008Q1	0.794790	9.136885	10.49040
2008Q2	0.781917	9.226671	10.59588
2008Q3	0.812098	9.241093	10.63355
2008Q4	0.889479	9.183458	10.61083
2009Q1	1.026217	9.039788	10.52333
2009Q2	0.736900	8.999116	10.46810
2009Q3	1.209904	9.074126	10.45102
2009Q4	0.735802	9.242216	10.47406
2010Q1	1.210865	9.464045	10.53457
2010Q2	1.155504	9.604302	10.57318
2010Q3	1.074467	9.689394	10.59223
2010Q4	0.973702	9.731452	10.59283
2011Q1	0.959186	9.735601	10.57501
2011Q2	0.979322	9.765251	10.57774
2011Q3	0.985123	9.818232	10.60086
2011Q4	0.814646	9.891015	10.64301

2012Q1	0.892010	9.979405	10.70187
2012Q2	0.958383	10.08487	10.75144
2012Q3	1.011039	10.20181	10.79290
2012Q4	1.047495	10.32551	10.82712
2013Q1	1.065845	10.45232	10.85478
2013Q2	1.078485	10.49787	10.86893
2013Q3	1.085192	10.47283	10.87011
2013Q4	1.085846	10.37150	10.85838
2014Q1	1.080435	10.16664	10.83328
2014Q2	1.099008	9.973966	10.80383
2014Q3	0.942950	9.812249	10.76966
2014Q4	1.215796	9.705478	10.73029
2015Q1	1.024285	9.674964	10.68514
2015Q2	1.386483	9.636016	10.64638
2015Q3	1.254551	9.587647	10.61485
2015Q4	1.463182	9.528501	10.59131
2016Q1	1.431362	9.456702	10.57634
2016Q2	1.405747	9.415856	10.57989
2016Q3	1.385893	9.410000	10.60176
2016Q4	1.371474	9.439743	10.64079
2017Q1	1.362261	9.502071	10.69504
2017Q2	1.311602	9.517174	10.74035
2017Q3	1.225355	9.487190	10.77777
2017Q4	1.112071	9.407796	10.80809
2018Q1	0.980670	9.265879	10.83190
2018Q2	0.924553	9.237048	10.87858
2018Q3	0.931850	9.330939	10.94507
2018Q4	1.004010	9.518136	11.02756
2019Q1	1.156909	9.754883	11.12207
2019Q2	1.289190	9.901670	11.18752
2019Q3	1.388222	9.988778	11.22888
2019Q4	1.441676	10.02964	11.24894