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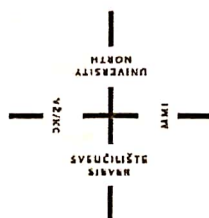
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## THE IMPACT OF THE EXTERNAL DEBT TO THE ECONOMIC GROWTH

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### ABSTRACT

*External debt is one of the key indicators on the economic growth of a country. However, the underestimation of the risks and inefficient use of received funds resulted on the default of some countries. Lately, Greece, Spain and Portugal faced default due to challenges on paying back the external debt. The purpose of the study is to determine the structure of external debt in Azerbaijan and calculate it by interest rates to assess main economic indicators, such as, the volume of GDP, the income and expenses of the state budget, social inequality, employment and poverty indicators. As an oil rich country, there is a difference on the impact of external debt to the oil and non-oil sector. Thus, the growth of oil sector through external debt is conducted by the international contracts. The research was conducted by conducting statistical, competitive analysis and running econometrical models. According to the research results, external debt does not impact the economic growth all the time. For this, the goals of the external debt, its allocation and control have to respond to international standards. The oil prices of the world market, in addition, the ratio of national currency against the foreign currency, including U.S. dollar has an impact on the borrowed or paid external debt. The competitive economic environment in the country should be maintained and improved for the*



*growth of the national economy. The innovativeness of the research is that the structure of the external debt has been calculated by the interest rates and economic indicators were assessed by diversification.*

**Keywords:** *External Debt, Economic Growth, Economic Indicators, International Standards, Diversification*

## **1. INTRODUCTION**

External debt is one of the key essential on economic activity of the country. Meaning that, external debt is fellow (countries, The World Bank, IMF, UN and other financial institutions) of the World economy in regard of remedy in terms of efficient tool of the free funds. However, inefficient use of received funds, inaccurate risk assessments face challenges to return of received funds. These challenges might lead to default of the country. The problem on return of received funds negatively impacted on economic and social development and economic growth of the country. Significant decline in world oil prices in 2008 creates certain effects of external borrowing in emerging global financial crisis (Hasanli Yadulla and Ismayilova Simrah. 2017. p.12). It is no coincidence that international financial institutions consider it unnecessary that the ratio of foreign debt to GDP is undesirable, and this is reflected in the calculation of the various international ratings of the international economic institutions, including the Global Competitiveness Report of the World Economic Forum, as an important indicator in calculating the Global Competitiveness Rank-GCR (Klaus, Schwab, 2018, pp. 68-626). Thus, the study of the impact of external borrowing on the economic growth remains a problem.

## **2. ANALYSIS OF CURRENT STATUS OF AZERBAIJAN'S FOREIGN DEBTS**

As it is known, valorization of the national currency rate (especially against the US dollar) is also reflected in the amount of foreign debt. As country rich in carbohydrate resources, the value of the national currency of Azerbaijan depends largely on the world market price of oil. The fall in oil prices in 2008 and starting in the second half of 2014 and the propensity for economic recession of the main trading partners did not sweep without affecting the economy of Azerbaijan. Since, as a result of the depreciation of the national currency against the US dollar by more than 2 times, the ratio of external debt to GDP has increased significantly over the years. The dynamics of a number of economic indicators for 1995-2017 years are given on the Table 1. As can be seen from Table 1, the ratio of the external state debt of Azerbaijan to GDP is expressed by a not-so-big figure. But as a result of the depreciation of the national currency in 2015, the ratio of external state debt to GDP increased from 8.6% in 2014 to 22.8% in 2017. As can be seen from the Graph, 1, the ratio of external state debt to GDP grows and falls with the rise and fall of the national currency price (with the exception of 1996-1998 years). In general, paying attention to the figures in Table 1, one can see that the external debt of the Azerbaijan economy is not at a critical level. Because the ratio of external state debt to GDP in Germany, France and other developed countries of European Union is more than 50%. Even for USA, Portugal, Ireland, Italy this figure is more than 100%. There are some factors affecting this situation.

*Table following on the next page*



Table 1: Dynamics of some economic indicators of Azerbaijan (Statistical Year Book of Azerbaijan, 2018, p.37-43; (<https://www.stat.gov.az/source/finance/>, [http://www.economist.com/content/global\\_debt\\_clock](http://www.economist.com/content/global_debt_clock))

Years	The amount of external state debt, million USD	GDP, million manat	GDP, million USD	exchange rate 1 US dollar = ... AZN	External state debt to GDP ratio, %
1995	294.0	2133.8	2397.5	0.89	12.3
1996	525.8	2732.6	3332.5	0.82	15.8
1997	549.7	3158.3	3962.7	0.80	13.9
1998	661.6	3440.6	4445.2	0.77	14.9
1999	964.0	3775.1	4339.2	0.87	22.2
2000	1162.5	4718.1	5184.7	0.91	22.4
2001	1264.2	5315.6	5595.4	0.95	22.6
2002	1356.2	6062.5	6186.2	0.98	21.9
2003	1575.2	7146.5	7218.7	0.99	21.8
2004	1587.7	8530.2	8680.2	0.98	18.3
2005	1650.5	12522.5	13611.4	0.92	12.1
2006	1972.0	18746.2	21547.4	0.87	9.2
2007	2441.9	28360.5	33762.5	0.84	7.2
2008	3001.1	40137.2	50171.5	0.80	6.0
2009	3421.8	35601.5	44269.5	0.80	7.7
2010	3857.3	42465.0	52843.5	0.80	7.3
2011	4816.7	52082.0	65926.6	0.79	7.3
2012	5708.4	54743.7	69683.9	0.79	8.2
2013	6058.9	58182.0	74173.9	0.78	8.2
2014	6478.2	59014.1	75234.7	0.78	8.6
2015	6894.3	54380.0	51790.5	1.05	13.3
2016	6913.3	60393.6	37746.0	1.60	18.3
2017	9398.3	70135.1	41255.9	1.70	22.8

The low budget deficit and the associated low debt in Azerbaijan is due to oil revenues. For example, if we pay attention to the law, we will see that 10% (from 2006, 22–26% sources of income are indicated) and more of budget revenues are transfers from the State Oil Fund.

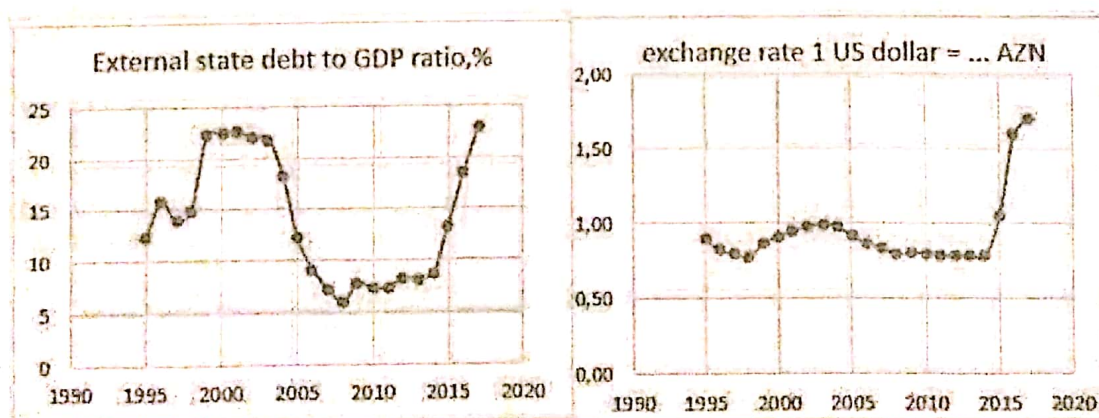


Figure 1: Dynamics of the ratio of Azerbaijan's foreign debt to GDP and national currency rate



Note that there is a certain effect of indicators characterizing the country's external debt on the competitiveness of the country's economy. Since in The Global Competitiveness Report in the estimation of Global Competitiveness Rank-GCR of the countries along with the factors of the "Macroeconomic environment", the indicators "Inflation" and "Total State Debt" are also used (Klaus, Schwab. 2018. p.83) (look at: Table 2).

*Table 2: Azerbaijan's place in ranking of countries in Global Competitiveness Index by Macroeconomic stability (Klaus Schwab, World Economic Forum, The Global Competitiveness Report, 2018, p.84. <http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf>)*

Years	Pillar 4: Macroeconomic stability. 0-100 (best)		Global Competitiveness Index in Azerbaijan rank	Global Competitiveness Index in Azerbaijan score
	Inflation annual % change	Debt dynamics 0-100 (best)		
2008	130.0	10	69	4.1
2009	123.0	12	51	4.3
2010	43.0	9	57	4.29
2011	101.0	11	55	4.3
2012	106.0	12	46	4.4
2013	1.0	13	39	4.5
2014	1.0	12	38	4.5
2015	1.0	14	40	4.5
2016	81.0	41	37	4.6
2017	127.0	43	35	4.7
2018	128.0	111	69	3.8

As can be seen from Table 2, Azerbaijan's position by score and rank in Global Competitiveness Index has been declined. The main reason for this has been removing the indicators of "Government budget balance", "National saving rate" and "country's credit rating" from the list of "Macroeconomic stability" factors, along with declining its position by "Debt dynamics". Because Azerbaijan's position has not deteriorated much due to the "budget balance of the government", the "national savings norm" and the "credit rating of the country" indicator.

### 3. ECONOMETRIC EVALUATION OF EXTERNAL BORROWING ON GROSS DOMESTIC PRODUCT

In order to determine the impact of the foreign debt indicator of Azerbaijan and the national currency rate on the country's GDP the following regression equation is evaluated in the Eviews Applied Software Package (Eviews, <http://www.eviews.com/EViews10/ev10main.html>):

$$\text{GDP\_USD} = 57369.0245549 + 10.1428323026 \cdot \text{ESD\_USD} - 928.381471299 \cdot \text{ESDP\_GDP} - 49944.5816719 \cdot \text{ER} \quad (1)$$

Here, GDP\_USD - GDP volume of Azerbaijan (in millions of USD), ESD\_USD - The amount of external state debt (million USD), ESDP\_GDP - External state debt to GDP ratio (%) and ER - exchange rate 1 US dollar = ... AZN shows.

The main statistical characteristics of the model (1) are given in Table 3.



*Table 3: Main statistical characteristics of model (1)*

Dependent Variable: GDP USD				
Method: Least Squares				
Sample (adjusted): 1995 2017				
Included observations: 23 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57369.02	4542.041	12.63067	0.0000
ESD USD	10.14283	0.662172	15.31751	0.0000
ESDP GDP	-928.3815	281.6402	-3.296338	0.0038
ER	-49944.58	8262.543	-6.044698	0.0000
R-squared	0.967238	Mean dependent var		29711.29
Adjusted R-squared	0.962065	S.D. dependent var		26305.63
S.E. of regression	5123.527	Akaike info criterion		20.07784
Sum squared resid	4.99E+08	Schwarz criterion		20.27532
Log likelihood	-226.8952	Hannan-Quinn criter.		20.12751
F-statistic	186.9795	Durbin-Watson stat		1.776303
Prob(F-statistic)	0.000000			

The main statistical characteristics given in Table 3 are satisfactory (Marno Verbeek, p.29-87). Other characteristic tests of the model (1) also show that the model is adequate (Damodar N. Gujarati. 2003. pp. 212, 217, 258, 267). Thus, the Breusch-Pagan-Godfrey test of the residual equilibrium test showed that there is homogeneity of the variance of the residuals remaining from the basic conditions laid down. (Table 4).

*Table 4: Heteroskedasticity Test of Remaining Model (1): Breusch-Pagan-Godfrey*

4: Heteroskedasticity Test of Remaining Model (1): Breusch-Pagan

F-statistic	0.777375	Prob. F(3,19)	0.5210	
Obs*R-squared	2.514465	Prob. Chi-Square(3)	0.4727	
Scaled explained SS	1.323079	Prob. Chi-Square(3)	0.7237	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Sample: 1995 2017				
Included observations: 23				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2783040.	24788603	-0.112271	0.9118
ESD USD	1385.278	3613.865	0.383323	0.7057
ESDP GDP	-556723.1	1537077.	-0.362196	0.7212
ER	29874066	45093586	0.662490	0.5156
R-squared	0.109325	Mean dependent var		21685219
Adjusted R-squared	-0.031308	S.D. dependent var		27534409
S.E. of regression	27962116	Akaike info criterion		37.28737
Sum squared resid	1.49E+16	Schwarz criterion		37.48485
Log likelihood	-424.8048	Hannan-Quinn criter.		37.33704
F-statistic	0.777375	Durbin-Watson stat		2.158928
Prob(F-statistic)	0.521037			

*Table 5: Augmented Dickey-Fuller test of remnants of model (1)*

Null Hypothesis: RESID09 has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=4)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.008228	0.0059
Test critical values:	1% level		-3.769597	
	5% level		-3.004861	
	10% level		-2.642242	



As Figure 2 shows, actual GDP figures and their model (1) prices are very close. This also indicates that the value of the determination coefficient shown in Table 3 is close to the unit. (R-squared = 0.967238).

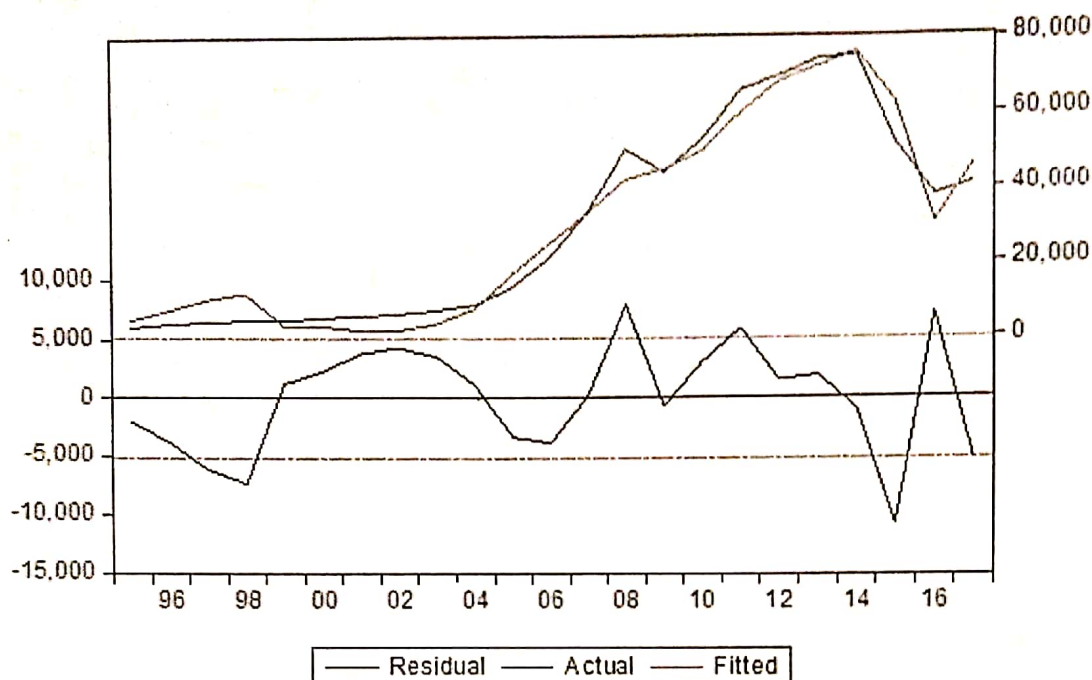


Figure 2: Prices of Azerbaijan (Actual) and Actual (1) model prices and their Residual Dynamics

The Model (1):

- The US \$ 1 million increase in the amount of the external debt of ESD\_USD increases the country's GDP by about \$ 10 million;
- Increase in the ratio of ESDP\_GDP, ie the ratio of Azerbaijan's foreign debt to GDP by 1%, causes the country's GDP to decline by 928 million;
- ER - exchange rate 1 US dollar = ... The decline in manat, ie, the decline of the Manat against the US dollar by 0.1 USD will reduce the GDP by about \$ 5 billion.

#### 4. CONSLUSION

The analysis carried out showed that the ratio of the external state debt of Azerbaijan to GDP is expressed by a not-so-big figure. But as a result of the depreciation of the national currency in 2015, the ratio of external state debt to GDP increased in recent years. The low budget deficit and the associated low debt in Azerbaijan is due to oil revenues. Due to the Budget Act budget beginning from 2006 transfers are made from the State Oil Fund. Also there is a certain effect of indicators characterizing the country's external debt on the competitiveness of the country's economy. The main reason for the fact that Azerbaijan's position by score and rank in Global Competitiveness Index has been declined has been removing the indicators of "Government budget balance", "National saving rate" and "country's credit rating" from the list of "Macroeconomic stability" factors, along with declining its position by "Debt dynamics". The results of the econometric modeling showed that the growth of The amount of external state debt by 1 million US dollars positively affected the growth of the volume of GDP. But the growth of the External state debt to GDP ratio (%) and depreciation of the national currency against the US dollar lowers GDP.

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