



The effects of foreign aids on economic development of Afghanistan

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ABSTRACT

The role of foreign aid in supporting economic development and its effectiveness in decreasing poverty in the developing countries have been an intense topic of debate in the development context. This dissertation focuses on the social economic costs related to foreign aid in Afghanistan. The aim is to suggest a series of actions and policies to make foreign aid programs more effective on economic development and governance in Afghanistan. The researcher applied quantitative research methods and employed secondary time series annual data for the period of 1960-2021. The study used the analysis of time series data through ADF to check Stationarity of each variable first and then Johansen co-integration tests to assess the long run relationship of foreign aid and GDP of Afghanistan. All analyses were carried out using econometric software package EView 10. The results of ADF tests showed that variables ODA and GDP of Afghanistan were stationary at first difference. The Johansen co-integration test authenticated that there is long-run relationship between foreign aid and GDP of Afghanistan. Based on the result of the OLS test, the result is statistically significant according to the p-value of 5%, and the existence of the long-run relationship between GDP and ODA is confirmed. The 1% change in net official development assistance leads to a 5.6% change in GDP.

Keywords: Afghanistan, Foreign Aids, Economic Development, Accountability, Economic Growth

INTRODUCTION

In 2017, the Afghan government's entire budget was nearly \$7 billion, with international funding covering nearly 70% of the countrywide budget (Cooper, 2018). While the international civic, particularly the United States, has sent billions of dollars in aid to Afghanistan since 2001, nearly \$127 billion has been disbursed on Afghanistan rebuilding and \$750 billion on US soldierly activities. Remember that 40% of Afghan residents are jobless, more than 55% of general public live in poverty, and 70% of individuals lack access to electrical energy throughout the country, Afghanistan is a state with nearly 3 trillion dollars in untapped natural resources (Zazai, 2018). The fact that Afghanistan continues to suffer from economic and social underdevelopment despite massive foreign aid raises the question: Does global aid help Afghanistan's economic progress? In this study, we investigated the causes of this phenomena to determine whether or not Official Development Assistance (ODA) contributed to Afghanistan's economic growth and to suggest alternatives for the proficient and effective use of ODA in Afghanistan (Zazai, 2018). Foreign aid is defined as the transmission of goods, services, and capital (grants or concessional credits) from an global organization such as the United Nations, World Food Program, World Bank supports, or developed countries to the aid needed or aid recipient countries for the purpose of assisting those countries that are facing or have faced natural calamities or other harms; these aids can take various forms such as soldierly aids, charitable aids, and others (Wiliams, 2004). According to a report to the US Congress by SIGAR (2015) on the total sum of aid paid to Afghanistan up to the end of 2014, this sum does not include other contributors who contributed billions of dollars to Afghanistan. Bearing in mind inflation, these moneys are more

than the USA distributed throughout the Second World War for the rebuilding of sixteen European countries. According to the international monetary fund's (2018) report, Afghanistan is one of the most low per capita income country in the world, grading 183rd out of 192 countries with a per capita income of \$663 USD per year, despite the massive amount of one hundred four billion in official development assistant capitalized in Afghanistan. SIGAR reports that Finance Minister Dr. Omar Zakhilwal of the Islamic Republic of Afghanistan stated, "In total, Afghanistan received 60 billion US dollars, of which only eight to nine billions USD were specified to the Afghan government to be used, while the remainder was either consumed or shifted to donor countries outdoor of Afghanistan." "We have repeatedly requested that donating countries make available at least fifty percent of donations to the Afghan government, and we are providing a full report on outgoings these amounts on lengthy and short-range projects," he added (Jalalzai, 2013). According to BBC (2014) story, Afghanistan's economy minister, Mr. Abdul Hadi Arghandiwal, "the aid amount of one hundred four billion is not accurate, saying that \$73 billion has been contributed to Afghanistan so far, with only seventeen percent being delivered to the Afghan government." He blames the global civic for corruption in Afghanistan, claiming that the Afghan government's entire budget is responsible and that it is extremely hard to account for circumstances when the Afghan government has no control over budget disbursement by outsiders. Mr. Arghandiwal stated, "The 82% of these assistances are consumed out of the nationwide budget by outsiders themselves, which means the Afghan government does not have control and cannot be responsible about that sum, which is why the Afghan government asserted at the Tokyo conference that at least 50% of assistance should be consumed through the Afghan government and its national budget." As previously stated, the massive amount of ODA provided to Afghanistan, based on World Bank data from 2002 to 2017, is \$73 billion; however, Afghanistan remains one of the most impoverished countries in the world despite having an abundance of natural resources in the region. Looking at all of this data, this study will determine whether ODA has a long-term positive influence on GDP and what the key issues are with ODA expenditure in Afghanistan. We investigate the first question econometrically using data from 1960 to 2021. The second question is examined in light of the empirical findings of this research and the related literature.

Empirical Literature

In a study published in 2016 by Eregha et al, for a number of sub-Saharan African areas, the effect of ODA on per capita GDP growth was evaluated. The research uses data collected from 33 sub-Saharan African nations from 1970 to 2013. Regarding the correction of errors, it employs both panel data co-integration and panel data modeling techniques. ODA had a positive but negligible influence on West Africa, as well as the East African region and non-oil countries that export petroleum, but a positive and large impact on Southern Africa, Central Africa, and oil-exporting countries, based on the research's results. The impact on growth in West Africa didn't become noticeable until the macroeconomic policy environment variables were taken into account. Rajarshi Mitra et al.'s (2015) study examined the association between foreign aid and per capita economic development in 13 Asian nations that have historically been among the biggest recipients of aid. In the long run, a 1% increase in foreign aid (as a percentage of GDP) results in a 0.18% decline in per-capita real income, according to the study's findings. As a result, Asian nations that rely on global aid will ultimately see the rate of per capita revenue growth decrease if they continue getting international aid. Co-integrating correlations also imply that trade accessibility and domestic capital investment are having a large and long-term positive influence on per-capita development. This paper by Matthijs Lof (2015) replicates the findings of earlier empirical literature that were stated by Nowak-Lehmann et al. (2012). The researcher find that the co-integration regressions used in these earlier studies were

inappropriate for accounting for the incidental influence of foreign aid and revenue. The previous literature of the authors mentioned led to incorrect conclusions as a result of this. Another mode of VAR is used in this paper, and the outcomes demonstrate a affirmative and notable impact of assistance on income. A similar article by Fazily (2014) examines how official development assistance affects economic growth in nations that have experienced armed conflict, more specifically in Afghanistan. As a result of the study that ODA plays a important role in the recovery of economies damaged by armed conflict. Without careful monitoring of its effectiveness and outcomes for production and infrastructure, ODA is an obstacle, not fix for the recovery of economic growth. Instead, it would make ODA a temporary tool to speed up economic recovery without accomplishing a level of GDP growth that could be sustained.

For the years 1993 to 2012, Tra (2014) observes the influence of foreign investment on economic progress in Vietnam. The autoregressive distributed lag (ARDL) method is used by the author to study the direct impact of aid on the outcome of the economic condition. According to the study's findings, foreign assistance significantly donated to Vietnam's economic development.

According to Nowak-Lehmann et al.'s 2012 assessment, foreign aid lowers each person's income. Yearly statistics and 5-year averages are used in the study's analysis of data from time series. It uses panel forecasts using a dynamic, feasible generalized least squares (DFGLS) model to estimate the link between foreign aid and the income of each individual. According to the study's findings, the real rate of exchange, national savings, and investing, as well as foreign aid, all indirectly affect per capita over the long run, despite the fact that foreign aid does not directly effect it.

Shaikh (2011) examines the connection between foreign assistance and Pakistan's expansion of the economy. The paper analyzes time series data using a combination of co-integration and the OLS technique approximation methods. The findings indicate that ODA and per capita GDP have a long-term relationship. In their 2010 study, Nowak-Lehmann examined the impact of foreign assistance on each person income. The unit root test, panel co-integration test, and panel DFGLS test are all applied to time series data from 1960 to 2006 for 131 aid recipient countries. According to the study, per capita, foreign aid either has a statistically insignificant or negative direct effect. Malik (2008) examines the impact of foreign assistance on economic development in his paper Foreign Assistance and Economic Progress: A Co-Integration Examination of the 6 low per capita income African Countries. The Augmented Dickey-Fuller test for stationary checks and the Johansen co-integration test for observing the co-integration among variables are both applied to time series data in this paper. The study finds a long-term connection among each person income, foreign relief, and investment. Additionally, the analysis demonstrates that foreign aid has a Feeny (2005) looked into how ODA affected Papua and Guinea's economic growth. The study made use of data from 1965 to 1999. The study looked at different scenarios to determine whether or not foreign assistance is effective in relation to the quality of policies and effective governing. The research tested co-integration using the ARDL approach. The test results didn't show much proof that ODA had an impact on economic growth. But the scholar found that a WB reform program made the ODA work better. Griffin & Enos (1970) found a negative correlation among economic development and foreign aid, despite the fact that they acknowledged the data's limitations. The study criticized the assumptions of traditional growth models, which hold that increases in investments follow increases in ODA inflows and result in higher levels of capital accumulation. According to the study, domestic savings are not increased but rather replaced by ODA inflows. Furthermore, governments and private business owners are encouraged by ODA inflows to expand

beyond their personal use. The state will refrain from increasing taxes in this way as well. In short, as long as the monetary value of ODA inflows remains lower than the additional capital production ratio, ODA will substitute tax changes, and the nation will continue to borrow and erode its internal savings.

Conceptual Framework

The theoretical structure was created using two variables, one of which served as a variable that was dependent Variable and one independent variable. The dependent variable is the GDP and the independent Variable is the ODA.

Flowchart of the theoretical model



$$(GDP_t) = \beta_0 + \beta_1 (ODA_t) + \epsilon_t$$

Where alpha is intercept and beta is the slope coefficient,

GDP = Gross Domestic products

ODA = Official Development Assistant

E = Errors Term

Methodology of study

In order to analysis the effectiveness of foreign aid on the economic development of Afghanistan this study use time series data from 1960 to 2021. First we have to check the stationarity of the time series data at level if not then we go for first and second difference. To check the long run relationship between variables we have done the Johnson co-integration test and to check causes of one variable on another variable passed granger casualty test.

Data analysis and interpretations

The estimation process and result analyses are covered in this part of the article. Is there a connection between Afghanistan's Economy and foreign aid, according to the study's question?

The descriptive statistics between GDP and ODA

	GDP	ODA
Mean	52.31423	6.963991
Median	17.03333	1.990274
Maximum	205.6449	50.43755
Minimum	0.000000	0.000000
Std. Dev.	71.64425	11.90930
Probability	0.000389	0.000000

Sum	3243.482	431.7674
Sum Sq. Dev.	313106.9	8651.720
Observations	62	62

Covariance Analysis

	GDP	ODA
GDP	1.000000	0.824343
ODA	0.824343	1.000000

As can be seen from the covariance study results, there is a considerable and strong connection among the variables. The Pearson correlation coefficient is over 50%, or 82 percent, indicating that the relationship between the variables is significant.

Unit Root Test

To determine whether a variable is stationary or not, there are various tests that can be used, including Augmented Dickey-Fuller, Phillips-Perron, and Schmidt-Shin. To check the stationarity of certain variables, the researcher does the unit root test using the Augmented Dickey-Fuller Test (ADF) methodology, which is the method that is most frequently employed. If a variable is stationary or non-stationary, it can be determined using the Null Hypothesis test or by comparing the t-values using the Test of Critical Values.

The researcher performed two separate Stationarity tests for each variable in the study because it focuses on examining the connection among two key variables: GDP per capita as the dependent variable and foreign aid as the independent variable (also known as official development assistance).

Unit Root Test for GDP – Dependent Variable

Table A.1: Unit Root Test for dependent variable (GDP) at Level

Null Hypothesis: GDP has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.190641	0.9335
Test critical values:		
1% level	-3.542097	
5% level	-2.910019	
10% level	-2.592645	

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

The theories that follow are developed by the researcher to determine the extent to which GDP is stagnant at various levels:

H0: GDP has unit root (non-stationary) at Level

H1: GDP does not have unit root (stationary) at Level

The outcome in Table A.1 demonstrates that the Probability value of 0.9335, which is not less than 0.05, is not significant. As a result, the Null Hypothesis cannot be ruled out because this shows that GDP is not stationary at Level. A t-value of 0.190641 is likewise less than the Critical Values, indicating that the variable is not stationary in another manner.

Table A. 2: Unit Root Test for dependent variable (GDP) at First Difference

Null Hypothesis: D(GDP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.516972	0.0005
Test critical values:		
1% level	-3.544063	
5% level	-2.910860	
10% level	-2.593090	

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

As Null Hypothesis was not rejected at the stated levels, the researcher further attempts to check the stationarity of data at First Difference and develops the following hypothesis:

H0: GDP has unit root (non-stationary) at First Difference.

H1: GDP does not have unit root (stationary) at First Difference.

Since the Probability value of 0.0005 is less than 0.05 is significant, the EView 10 result in Table A. 2 shows that the data is stationary at the first difference. Additionally, the absolute value of the t-value, 4.516972, is higher than the Critical Values, indicating that the variable is stationary. As a result, the null hypothesis can be rejected at the first difference, and the alternative hypothesis can be accepted.

Unit Root Test for ODA – Independent Variable

Table B.1: Unit Root Test for Independent variable (ODA) at Level

Null Hypothesis: ODA has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.894648	0.3327
Test critical values:		
1% level	-3.542097	
5% level	-2.910019	
10% level	-2.592645	

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

The researcher develops the following hypothesis to examine the possibility that ODA is steady at various levels:

H0: ODA has unit root (non-stationary) at Level

H1: ODA does not have unit root (stationary) at Level

Table B. 1's outcome demonstrates that the probability value of 0.3327 is insignificant and not less than 0.05. Considering that ODA is not stationary at Level, the null hypothesis cannot be accepted. Also lower than the Critical value is the t-value, which is -1.894648 in absolute form. Values that indicate that a variable is not stationary.

Table B. 2: Unit Root Test for Independent variable (ODA) at First Difference

Null Hypothesis: D(ODA) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.930144	0.0000
Test critical values:		
1% level	-3.544063	
5% level	-2.910860	
10% level	-2.593090	

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

As Null Hypothesis was not rejected at level for ODA, therefore the researcher has the option to

Further check the Stationarity of data at First Difference. Following hypotheses are developed for Testing:

H0: ODA has unit root (non-stationary) at First Difference.

H1: ODA does not have unit root (stationary) at First Difference.

Since the Probability value of 0.0000 is significant and is less than 0.05, the unit root test result obtained by EView 10 as given in Table B.2 suggests that the data is stationary at the first difference. Meanwhile, the fact that the absolute form of the t-value, 8.930144, is higher than the Critical Values suggests that the ODA data is stationary. According to the findings of the empirical tests, ODA data is stationary at the first difference, which allows the null hypothesis to be rejected and the alternative hypothesis to be accepted.

Lag Length Selection

Table: VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria

Endogenous variables: GDP ODA

Exogenous variables: C

Date: 06/17/23 Time: 00:45

Sample: 1960 2021

Included observations: 57

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-515.8491	NA	266838.4	18.17015	18.24183	18.19801
1	-408.4655	203.4637	7094.607	14.54265	14.75771*	14.62623*
2	-406.3274	3.901117	7578.943	14.60798	14.96641	14.74728
3	-399.0115	12.83499*	6757.228*	14.49163*	14.99343	14.68665
4	-395.5550	5.821460	6906.892	14.51070	15.15587	14.76144
5	-395.0936	0.744591	7855.061	14.63486	15.42341	14.94132

*indicates the lag order selected by the criteria used in this research

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

As soon as the procedure of analyzing the stationarity of the variables was complete, the tests revealed that all of the variables were stationary and suitable for carrying out additional tests and analyses. It is said that choosing a lag length is a must before doing co-integration tests. Numerous tests, including the Log Likelihood (LL), the Schwarz Information Criteria (SIC), the Akaike Information Criteria (AIC), the Final Prediction Error (FPE), the Bayesian Information criteria (BIC), and the Hannan-Quinn Information Criteria (HIC), are used to determine the optimum lag duration. The Akaike Information Criteria are used to choose the optimal Lag Length for this study because most empirical research has shown that this approach is effective when compared to other tests. Which Lag Length Selection Criteria Should Be Used to Determine Lag Length? by Venus Khim Sen Liew (2004) Other empirical investigations have demonstrated that the AIC is often employed in economic research. For instance, the AIC was employed by Sarantis (1999, 2001), Baum et al. (2001), Baharumshah et al. (2002), and Sarno and Taylor (1998), who combined the AIC and SIC models. The VAR estimate with the lowest absolute Akaike Information Criteria (AIC) is the most effective and can be selected with confidence. As a result, the result in Table C.1 recommends that using VAR (1) and a lag length of one is the best choice for the Co-integration test.

Estimation of Long-Run Relationship through Johansen Cointegration Test

Table: Johansen Co-Integration Test

Date: 06/17/23 Time: 00:51

Sample (adjusted): 1963 2021

Included observations: 59 after adjustments

Trend assumption: Linear deterministic trend

Series: GDP ODA

Lags interval (in first differences): 1 and 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.296523	22.38610	15.49471	0.0039
At most 1	0.027325	1.634592	3.841466	0.2011

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.296523	20.75151	14.26460	0.0041
At most 1	0.027325	1.634592	3.841466	0.2011

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

All of the variables are non-stationary at the level, according to the findings of unit root tests. To determine whether the variables are stationary, tests were run at the first difference. Variables are stationary, according to the first difference results of the unit root test. According to theories, non-stationary variables should not be used in econometric analysis, with the exception of cases where a linear combination results in a stationary series. The study uses the Johansen-Co integration test to look at the relationship between ODA and GDP over the long term. In a vector autoregressive system, this co-integration approach defines the maximum likelihood method to define the existence of co-integrating vectors. The findings of the Johansen Co-integration Test can be interpreted in one of two ways. The creation and testing of hypotheses come first, followed by a comparison of the trace statistic value to the 5% critical value. The following hypotheses are developed:

H0: There is no co-integration equation (No long-run relationship)

H1: Greater than zero co-integrating equation (A long-run relationship exists)

The result in Table demonstrates that there is long-run association between ODA and GDP because the trace statistic value at zero is greater than the 5% Critical value and is also significant, allowing the null hypothesis to be rejected and the alternative hypothesis to be accepted. Consequently, it is concluded that the model is co-integrated and all variables are moving together in long run.

Granger Causality Test

Pairwise Granger Causality Tests

Date: 07/28/23 Time: 06:18

Sample: 1960 2021

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ODA does not Granger Cause GDP	60	3.44723	0.0389
GDP does not Granger Cause ODA		5.77219	0.0053

As per the VAR Granger Causality test the ODA p value is less than the 0.05 we reject the null hypotheses rejected and accept the alternative it means casualty exist so in this case ODA cause the GDP. To the extent of GDP p value is also less than 0.05 also reject the null hypotheses and accept the alternative so GDP also cause the ODA, there is bidirectional causality exist between variables.

Least square method

Dependent Variable: GDP

Method: Least Squares

Date: 07/27/23 Time: 10:13

Sample: 1960 2021

Included observations: 62

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ODA	5.617542	0.401918	13.97685	0.0000
R-squared	0.633093	Mean dependent var		52.31423
Adjusted R-squared	0.633093	S.D. dependent var		71.64425
S.E. of regression	43.39695	Akaike info criterion		10.39465
Sum squared resid	114881.0	Schwarz criterion		10.42896
Log likelihood	-321.2342	Hannan-Quinn criter.		10.40812
Durbin-Watson stat	0.904398			

The presence of the long-term association between GDP and ODA is proven based on the results of the aforementioned OLS test, which showed a result that was statistically significant with a p-value of 5%. Gross domestic product changes by 5.6% as a result of a 1% change in net ODA. The robustness of the estimated outcomes is confirmed in accordance with the long run coefficient and probability value of 5% for estimations. The value of (R-square), which is (63%) in the table above, indicates that the independent variable accounts for 63% of the variance in the dependent variable, with the remaining 37% being the result of the influence of other factors. Additionally, a high R-square value indicates that the goodness of fit is good (greater than 50%).

CONCLUSION

Foreign assistance is regarded as a critical source of capital that can result in long-term, sustainable economic development in low per capita income countries. For example, in South Korea, a 4% increase in ODA has increased GDP by 4%, whereas in Afghanistan, due to the ineffective and inefficient use of ODA, the country has

become aid-dependent, with 55% of the population living below the poverty line and the government unable to finance its budget. The result of our analysis of the influence of net official development assistance (ODA) on Afghanistan's GDP from 1960 to 2021, utilizing Johansen Co-integration and OLS tests, is statistically significant and robust. It demonstrates that ODA has a positive and long-term influence on Afghanistan's GDP, with a 1% increase in ODA resulting in a 5.6% increase in Afghanistan's GDP in the long run. Furthermore, based on extensive research on the influence of ODA on economic growth, we make recommendations to the Afghan government and donor countries on how to improve the effectiveness of official development aid in Afghanistan. In the case of Afghanistan, the current war has consumed more than half of the country's budget and foreign aid. Another detrimental effect of conflict is that insurgent or terrorist organizations prevent infrastructure improvements from being completed nationwide in areas they control. As a result, starting peace talks with militant groups and focusing on the peace process could result in Afghanistan experiencing tremendous economic growth.

In addition, according to international studies, there are additionally two key factors that contribute to the efficient and effective use of ODA: having clean government agencies and having sound ODA expenditure policies. However, Afghanistan does not meet any of the two aforementioned criteria, so donor countries should first focus on creating strong, honest, effective, and responsible government agencies. Second, donor nations should place a focus on strengthening the present ODA expenditure strategies of the Afghan republics in order to guarantee their effective application to long-term economic growth-promoting strategic initiatives. Afghanistan still ranks among the poorest nations on earth despite having \$3 trillion worth of resources from nature. As such, the government should engage in mineral extraction in order to strengthen the Afghan economy. Another critical aspect is the lack of coordination between the Afghan government and donor nations about ODA expenditure independently by donor countries on short-term and non-essential projects rather than strategic projects that could result in Afghanistan's economic stability and progress. As a result, coordination between donor countries and the Afghan government on ODA expenditure based on a comprehensive strategy will boost the efficiency of foreign aid and expedite the country's economic progress. Many other factors, such as political instability, low domestic output, low investment (both domestic and international), drug mafias, illiteracy, and so on, have contributed to ODA ineffectiveness non Afghanistan. All of these elements should be investigated in terms of their link to ODA. Due to data limitations, this study has solely looked at the relationship between economic growth and ODA.

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