



# ECONOMETRIC STUDY OF STATE BUDGET DEFICIT: CAUSES AND SOLUTIONS

Fayzullayev Doston Mahmud o'g'li<sup>1</sup>

<sup>1</sup>Alfraganus University "Faculty of Economics", Senior Teacher of the "Finance" Department

## ABSTRACT

DOI No: 10.36713/epra19433

Article DOI: <https://doi.org/10.36713/epra19433>

*This article examines the multifaceted problem of government budget deficits, identifies their underlying causes, and proposes a number of solutions for sustainable fiscal management. It identifies economic downturns, structural imbalances, policy decisions, and unexpected expenditures as the main drivers of budget deficits. In response, it proposes a range of strategies to mitigate these deficits, including spending cuts, revenue increases, growth-enhancing initiatives, debt financing, public-private partnerships, and comprehensive budget reform. Through a balanced approach that includes both immediate corrective measures and long-term preventive measures, the article emphasizes the importance of both fiscal discipline and strategic investment in addressing budget deficits. This analysis aims to provide policymakers, economists, and the public with insights into how to manage public finances effectively, ensure economic stability, and ensure citizen well-being.*

**KEY WORDS:** Budget revenues, expenditures, budget deficit, economic decline, structural changes, cost reduction, revenue increase, fiscal discipline, strategic investment, inflation, economic growth, interest rate, exchange rate.

## INTRODUCTION

The state budget deficit is an urgent issue that has a great impact on public services and economic stability. A budget deficit occurs when a government's expenditures exceed its revenues, leading to a gap that must be bridged to ensure fiscal health and stability. This article examines the main causes of the state budget deficit and shows effective ways to eliminate them.

## VALIDITY OF THE RESEARCH SUBJECT

In recent years, we can see a deficit in the State budget of the Republic of Uzbekistan. The state budget deficit of Uzbekistan showed different dynamics between 2012-2023. During this period, economic changes, government spending and global economic conditions affected the level of the deficit. In 2012-2016, the budget of Uzbekistan was close to balance. The deficit has generally been kept around 1-2 percent of GDP. In 2017-2018, smaller deficits were observed in the State budget, but we can see a slight increase in the deficit during this period due to public investments and economic reforms. In 2019 Scarcity significant level increased and 13.2 trillion soums or 2.5 percent of

GDP organize did In this period state expenses increase with explained. The COVID - 19 pandemic in 2020 effect under the deficit is 26.1 trillion soums or to 4 percent of GDP enough in 2021 Scarcity again increased by 40.8 trillion soums or to 5.5 percent of GDP enough in 2022 Scarcity a little decreased to 35.2 trillion soums or 4.5 percent of GDP organize did in 2023 Most high shortage observed, i.e. 59 trillion soums or 5.5 percent of GDP organize reached.

State budget deficit in 2012-2018 relatively stable was if so, from 2019 starting from state expenses growth, pandemic global factors such as and energy subsidies because of sharp increased This is a deficit level state expenses in order to be put and economic grow to the pace depends to be and to come in years decline trend to show can

## ANALYSIS OF LITERATURE ON THE SUBJECT

Budget in politics budget shortage prevention every get of the state important of duties one is considered Telkom University of Indonesia professors A. M. Hidayat, R. Yusiana, A. Salehlarin in 2019

announcement done to the article according to budget to the shortage economic growth , inflation and currency course such as one how much factors effect is enough From this except of Indonesia external debt percentage staff , foreign investment and gross national a total of such as economic factors also influence is enough Researchers Indonesia Bank , Statistics central order and International Currency Fund of 2000-2017 information based on Two phased the most small of squares (TSLs) method using a lot factorial regression analysis will be held .[1]

Researchers the following two the model present achieved :

Model 1

$$BD_t = a_0 + a_1 LPE + a_2 INF + EXC + e_t \quad (1)$$

Here : BD - state budget deficit ; LPE is economic grow level INF - infection ; EXC – Indonesia Rupiah to US Dollar relatively exchange course ;

First to the model basically as follows hypothesis before pushed :

H1 : economic grow rate of inflation and currency course state budget deficit together and separately serious effect shows .

Researchers statistics from the data using many p factor regression model parameters calculated and the following regression equation harvest did :

$$BD = -266.720 - 8.773LPE + 2.196INF + 21.933EXC \quad (2)$$

$$SEE = (14.057) (512) (8.64)$$

$$t = (-0.26) (4.29)*** (2.54)**$$

$$R^2 = 0.9270 \quad F = 59.30$$

Research to the results according to inflation and Indonesia Rupiah to US Dollar relatively exchange course state budget deficit important level positive effect showed. In particular, inflation a 1 percent o' change State budget deficit of 2.2 billion. to rupiah If it changes, Indonesia Rupiah to US Dollar relatively exchange course one to unity change state budget deficit to 21.9 units changes. Nevertheless economic grow up state budget deficit important effect was not Researchers above received from the results conclusion by doing that's it to say maybe the state inflation and currency course neat to try to do need as a result state budget control the deficit to do opportunity appear will be

Model 2

$$DEBT = b_0 + b_1 DIR + b_2 FDI + b_3 SBD + b_4 BD_{prg} + e_t \quad (3)$$

Here: DEBT - Indonesia external debt; DIR – Indonesia and Joint states debt percentage stapler between difference FDI – Foreign and Internal investment; SBD - gross national fund;  $BD_{prg}$  - rated state budget deficit.

Regression analysis as a result determined parameters using the following model equation composed of :

$$DEBT = 62.048 + 4.795DIR + 1.273FDI - 1.305SBD + 0.710 BD \quad (4)$$

$$SEE = (2.567) (0.757) (0.113) (0.109)$$

$$t = (1.86) * (1.68) (-0.14) (6.54)***$$

$$R^2 = 0.9574 \quad F = 73.07 \quad Adj R^2 = 0.9443$$

Researchers to his opinion according to external and internal debt staff of Indonesia external debt important positive effect passed, foreign straight away investments and gross national of the fund external debt to growth important effect not defined. If Indonesia state budget deficit of 1 bln . to rupiah if it changes, as a result external debt 0.710 mln. to US dollars to change take will come Indonesia and Joint states debt percentage stapler between the difference is 1 percent if it increases of Indonesia external debt 4.795 mln. to US dollars rise let's see can

Many researchers economic , political and institutional of factors state to the budget the impact research In particular , Ali Bayar and Bram Smeets Europe The Union of Soviet Socialist Republics 1971-2006 information analysis did without following to the conclusion agreed : their to the mind according to political fragmentation state budget deficit impact local no party behavior is also state budget deficit insignificant impact shows . Nevertheless, political instability state budget deficit noticeable negative impact [ 2 ]

Benjamin E. Diokno of the Philippines state budget narrow to the deficit and wide on the scale effect doer factors on work take go and research as a result according to the following to conclusions came : in a narrow circle to be considered if so , the state budget deficit effect doer main factors - inflation , local liquidity , capital expenses and tax policy is considered Wider on the scale above factors in line economic growth and intergovernmental transfers to the fiscal deficit effect doer factors is counted . [3]

In the case of Abu Nurudeen's Nigeria state budget deficit economic political determinants on the subject in the article analysis according to the budget deficit main determinants - international capital flow, international percentage staff , loan service show value , state expenses , political instability and economic growth is considered

Above factors between regression of Eq common appearance as follows:

$$BUD_t = CAP_t + INTRAT_t + INF_t + DEBT_t + PUBEX_t + POL_t + ECGR_t + U_t \quad (5)$$

Here  $BUD_t$  – in period t budget deficit ;  $CAP_t$  - t period international capital of the flow GDP to ratio ;

$INTRAT_t$  – in period t international percent staff ;  $INF_t$  – in period t inflation level ;  $DEBT_t$  – in period t in debt service show expenses ;  $PUBEX_t$  - in period t state expenses ;  $POL_t$  – period t fictitious variable : D=1 if military regime If , D=0 if citizenship mode if

;  $ECGR_t$  – in period t economic growth ;  $U_t$  – t in period regression error .

Regression results the following in the table cited :

**Table 1**  
**In the case of Abu Nurudeen's Nigeria state budget deficit economic political determinants based on made up Regression results [ 4]**

Variables	Coefficient	Std . Error	t- Statistics	Probability
C	-65.67526	14.90410	-4.406524	0.0002
CAP(-1)	102.6803	37.74196	2.720587	0.0125
INTRAT	5.631216	1.317415	4.274443	0.0003
INF	-0.084325	0.153809	-0.548244	0.5890
DEBT(-1)	39.42674	19.41710	2.030517	0.0546
PUBEX	-110.0985	21.57601	-5.102819	0.0000
POL(-1)	18.76174	6.542847	2.867519	0.0089
ECGR	-0.061013	0.030836	-1.978620	0.0605

Researcher received regression to the results according to the factor characters in Nigeria budget deficit about 78.3 percent changes expressing gives Durbin Watson to the criterion according to factors between autocorrelation there is it's not and to the F-statistic according to of factors together effect important. From this it seems researcher received regression results reliable.

possibilities of planning public expenditures and reducing the deficit.

**RESEARCH METHODOLOGY**

To achieve the goal of the study, the tasks to be performed were first defined. Including: compilation of statistical data on parameters of the State budget of the Republic of Uzbekistan and sorting them into certain groups; representation of descriptive statistics based on grouped data through tables and graphs; Assessing the power of dependence of the factors influencing the result by means of correlation-regression analysis of the state budget deficit and the macroeconomic indicators affecting it; critically analyzing the obtained results through the methods of induction and deduction, developing proposals on the

**ANALYSIS AND RESULTS**

See Deficits in the budget system of developed countries in the world :

The dynamics of the budget deficit in Germany is specific and depends on the specific political and economic situation. Germany, as the leading economy of the European Union, pays great attention to maintaining financial discipline and basing fiscal policy on stability. During this period, Germany began to drastically reduce the budget and control public spending in order to provide financial assistance to EU countries. In 2010, the "Schuldenbremse" (debt brake) law was passed to maintain fiscal discipline, according to which the budget deficit could not exceed 0.35 percent of GDP. With that together , this period Germany budget near to balance came and even excess budget is also recorded done

**Table 2**  
**Dynamics of the budget deficit in some developed and developing countries in 2018-2022 as a percentage of GDP[5]**

States	2018	2019	2020	2021	2022	average
USA	-5.33	-5.46	-14.49	-10.91	-3.71	-7.98
Azerbaijan	5.50	8.94	-6.68	4.08	5.97	3.56
Germany	1.90	1.50	-4.30	-3.60	-2.50	-1.40
South Korea	2.56	0.37	-2.23	-0.02	-1.60	-0.18
Uzbekistan	1.97	-0.33	-3.27	-4.67	-4.17	-2.06
Kyrgyzstan	-0.59	-0.08	-3.26	-0.40	-0.28	-0.92
Kazakhstan	2.58	-0.57	-7.04	-4.97	0.09	-1.98
Russia	2.92	1.93	-4.00	0.80	-1.36	0.06
UK	-2.20	-2.30	-12.76	-7.99	-5.51	-6.15
China	-4.28	-6.10	-9.72	-6.05	-7.52	-6.73

The dynamics of the budget deficit in the US mainly depends on economic conditions and government

policies. Major events such as the 2008 financial crisis and the 2020 COVID-19 pandemic have significantly

increased the deficit. At the same time, attempts have been made to reduce the deficit during periods of economic recovery, but the increasing debt burden poses a threat to long-term financial stability.

From 2014 to 2019 Germany state budget significant excess indicators with done increased Above that tax revenues, strong economic grow and state expenses control to be done reason it has been . This in years Germany state debt significant level decreased , this while financial stability strengthened . The COVID-19 pandemic in 2020 because of Germany budget serious to the deficit met State of the pandemic economic consequences softening for big financial help packages acceptance did As a result , in 2020 Germany state budget shortage 4.2 percent of GDP organize did This is in fiscal 2010 discipline from politics significant retreat was . from 2022 from , Germany of the government purpose again fiscal to discipline return it has been . in 2022 state budget shortage 3.4 percent of GDP organize did , this and in 2020 from the degree Although significantly lower , it is still a pandemic in front of excess to indicators not enough in 2023 government to the Schuldenbremse law suitable respectively deficit control under storage and state debt to reduce sought in Germany budget shortage dynamics financial discipline , economic

cycles and political decisions with dependent is the last ten annually excess from the budget pandemic to deficit , then while fiscal to stability to return directed changes observed .

External factors as the following to bring can :

- Global economic conditions: developing countries economy the world economic trends, in particular , goods markets effect shows Cotton and natural gas such as main export products of prices o' change state to income significant effect to show possible ;
- To debts service show: developing countries development projects financing for big amount debt received due to debt service show big budget to the load became Global percentage rates and currency courses o' change this issue more strengthen can

Below in Uzbekistan State budget to the shortage effect doer one how much factors from within currency exchange rate, inflation , unemployment , state debt and economic growth such as macroeconomic factors choose obtained , correlation - regression analysis done increased

**Table 3**  
**State budget shortage and macroeconomic factors between correlation mattress [10]**

	<i>State budget deficit GDP to relative %</i>	<i>LnVK</i>	<i>Yearly inflation</i>	<i>Unemployment</i>	<i>State of debt GDP to relatively in percent</i>
LnVK	0.75	1.00			
Yearly inflation	0.13	0.70	1.00		
Unemployment	0.70	0.97	0.68	1.00	
State of debt GDP to relatively in percent	0.83	0.97	0.61	0.97	1.00
Economical growth	-0.29	-0.66	-0.70	-0.69	-0.65

Above given correlative to the table according to State budget deficit state debt, USA of dollars to soum relatively course and work strong correlative to contact have Analysis done period in the interval of inflation State budget deficit effect weak that it was let's see can economical grow and deficit between weak reverse dependence existence.

Regression to the equation see USA dollar in soums relatively course one percent If it increases , the State budget deficit of 0.21 percent If inflation increases by 1 percent If it increases , the State budget deficit of 0.30 percent Unemployment increases . one percent if it changes , in parallel deficit 0.45 percent changes . State debt at 1 percent if it increases deficit 0.29 percent If the economic growth one percent if it increases state budget deficit by 0.8 percent decreases.

**Table 4**  
**State budget shortage and macroeconomic factors between regression results [10]**

	<i>Coefficients</i>	<i>t- statistics</i>	<i>P- value</i>	<i>bottom 95%</i>	<i>top 95%</i>
constant	31.83	5.73	0.00	18,24	45,42
LnVK	0.21	4.06	0.01	0.88	3.54
Yearly inflation	0.30	8.71	0.00	0, 22	0, 39
Unemployment	0 , 4 5	8.31	0.00	0.03	2.47
State of debt GDP to relatively in percent	0.29	10,11	0.00	0.22	0.36
Economical growth	- 0.8	2.47	0.19	- 1.8	- 0.02

Above given regression from the results come out State budget shortage and to him effect who does one how much macroeconomic factors between regression equation was built:

$$DBT_t = 31.83 + 0.21LnVK_t + 0.30INF_t + 0.45ISHS_t + 0.29DQ_t - 0.8 IQO'_t + e_t(6)$$

this where :  $DBT_t$  - t period State budget shortage ;  $LnVK_t$  - t period USA of dollars soum relatively course ;  $INF_t$  - in period t inflation level  $ISHS_t$  - t period unemployment level  $DQ_t$  - t period state debt to GDP relatively in percent ;  $IQO'_t$  - in period t economic growth

### Budget Shortage Prevention Get Measures

State budget shortage eliminate reach and prevention get for Uzbekistan economic reforms , fiscal to politics corrections and structural changes mixture done to increase can Economical to reforms the following to count can

- The Economy diversification do: diversification encourage through one how many main to networks dependence reduce income stabilization can Work release , village farm and service show such as to areas investments encourage more strong and stable economic to grow creates ;
- Tax System improvement : informal sector formalize and taxes to collect mechanisms improvement through tax insertable the base expansion income increase possible . Tax administration modern methods current to grow and tax from paying neck to evade reduce important is a step.

Fiscal to politics corrections to input the following to count can :

- Expenses rationalization to do: wastefulness and inefficiency eliminate to grow for state expenses in all respects seeing exit help Infrastructure , education and health storage such as high impact indicating to the sectors expenses prioritization far term benefit brings ;
- Subsidies according to reforms : Harm watching state to enterprises subsidies step by step to stop and this enterprises more efficient and itself to provide encourage of the state fiscal load reduces

Structural to changes the following to count can :

- Privatization and public-private partnership ( PPP ) : Some state enterprises privatization and PPPs encourage state undertake falling financial the load reduce and important in networks efficiency increases
- Management and transparency improvement : management the basics strengthening and state finance in management transparency increase

confidence strengthening and state resources more efficient to use provides .

External to measures the following to bring can :

- Debt manage strategies : Debt to get stability and high profitable investments for use provide for debt reasonable manage strategies done increase excess debt of cargo prevention takes
- External trade and investments extension : direct foreign investments (TDI) . encourage and trade connections development stable income source provides .

### CONCLUSION

Summary by doing so to speak in Uzbekistan state budget shortage eliminate reach the economy diversification do, tax system improvement , state expenses rationalization to do and structural reforms own into received complex requires an approach. This measure done increase through Uzbekistan more stable the economy dry and stable fiscal to politics reach can

### REFERENCES

1. Agus Maulana Hidayat, Rennyta Yusiana, Ahmed Soleh -Determinants of Government Budget Deficits and Their Impact on Indonesian Foreign Debt/International Conference on Rural Development and Entrepreneurship 2019: Enhancing Small Business and Rural Development Toward Industrial Revolution 4.0/Vol. 5 No. 1/ISBN: 978-623-7144-28-1
2. Bayar, Ali; Smeets, Bram (2009): Economic, political and institutional determinants of budget deficits in the European Union, CESifo Working Paper, No. 2611, Center for Economic Studies and ifo Institute ( CESifo ), Munich
3. Benjamin E. Diokno, Philippine fiscal behavior in recent history/ THE PHILIPPINE REVIEW OF ECONOMICS VOL. XLVII NO. 1 JUNE 2010 PP. 39-87.
4. ABU NURUDEEN, ECONOMIC AND POLITICAL DETERMINANTS OF PUBLIC SECTOR BUDGET DEFICITS: THE CASE OF NIGERIA, Department of Economics, Ibrahim Badamasi Babangida University, Lapai / studies business and economics Vol. 5 No. 2. <https://qspace.qu.edu.qa/handle/10576/3453>
5. International currency fund <https://data.imf.org/?sk=388dfa60-1d26-4ade-b505-a05a558d9a42> ) information based on the author calculation .
6. Chugunov , I., Makohon , V., Vatulov , A., & Markuts , Y. (2020). General government revenue in the system of fiscal regulation. *Investment Management and Financial Innovations*, 17(1), 134-142. [https://doi.org/10.21511/imfi.17\(1\).2020.12](https://doi.org/10.21511/imfi.17(1).2020.12) .
7. Khalil, R. & Pandow , BA (2020). Influence of fiscal policy on GDP: an empirical study of GCC countries.

- Investment Management and Financial Innovations*, 17(3), 319-331. doi:10.21511/imfi.17(3).2020.24.
8. Frolov , S., Bogacki , S., Shukairi , F., & Bukhtiarova , A. (2021). *Evaluation of state budget structural changes based on the coefficient method*. *Investment Management and Financial Innovations*, 18(1), 55-64. [https://doi.org/10.21511/imfi.18\(1\).2021.05](https://doi.org/10.21511/imfi.18(1).2021.05)
  9. Khaidarov N. X. *Local budgets: problem and innovative solutions // Scientific electronic magazine of Statistics of Uzbekistan*. - 2020.
  10. Eshnazarov T.Sh. *budget relations improvement and his prospects // Economics and finance (Uzbekistan)*. - 2021. - no. 9 (145).