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Unravelling the dynamics: Exploring key factors influencing the debt-to-GDP ratio of an economy

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Abstract
The objective of this study is to examine the dynamics of public debt, taking into consideration both its potential to boost national growth and the point at which it becomes an obstacle rather than a help. The main aim is to identify the important variables impacting the level of public debt and analyse how these variables fluctuate over time. The choice of macroeconomic indicators was the result of reading various research articles and utilizing theoretical knowledge.
After observing data from 10 countries worldwide spanning from 2011 to 2022, our findings indicate that the debt-to-GDP ratio is significantly impacted by Government Expenditure, Savings, Inflation Rate, Net Lending, and Openness of the country. Real GDP Growth Rate, Corruption, and FDI also positively affect the Debt to GDP ratio whereas it is negatively affected by the Unemployment rate.

Keywords: Public Debt, Debt-to-GDP Ratio, Macroeconomic Indicators, Government Expenditure, National Growth, Savings

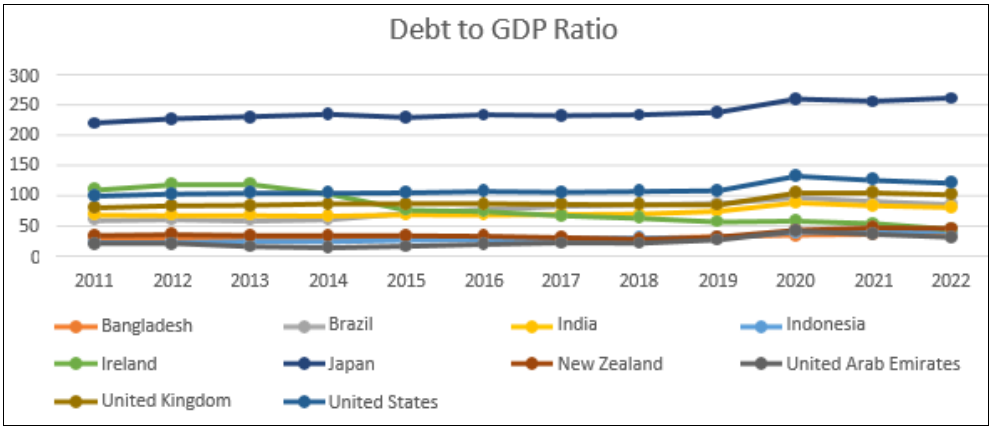
Introduction

Current budget deficits and increasing public debts pose major challenges for global economies. Without productive remedies, they create great troubles in the future as well. Huge amounts of public debt not only hinder the execution of constructive fiscal policies but also complicate the ability to secure financial resources on capital markets. The accumulation of public debt generally results from intended decisions made by the authorities to borrow large amounts of money to combat budget deficits. Depending on how it is used and managed by governments, public debt can play a major role in fostering the long-term growth of the economies. On the contrary, it can become a significant burden for a nation and its population. In neoclassical models, the potential dangerous effect of public debt on GDP depends on the validity of Ricardian equivalence. If Ricardian equivalence holds, any worse effects on accumulated savings resulting from increase in government expenditure are opposed by a relative rise in household saving rates. As a result, the long-term process of accumulation remains intact. In this paper, we analyse the primary factors that may lead to the development of public debt.

The Covid 19 pandemic has been blamed for a sharp rise in public debt levels across many countries, thus contributing to various measures aimed at debt reduction, economic restoration, and the recovery of national economies. However, the danger of high public debt and its ramifications remain a significant issue. Innumerable

Factors contribute to the accumulation of public debt, ranging from historical to political and further to economic variables. Due to the complexity and wider scope of the issue, the authors focussed on a selected group of macroeconomic indicators in their research work. Their paper mainly talks about the dependence and effects of these indicators on public debt.

Numerous scientific studies have already acknowledged the interdependence between the accumulation of public finances and macroeconomic indicators. Many researchers have examined the relationship between macroeconomic indicators and public debt, majorly focusing on factors such as foreign direct investments, inflation, unemployment rates, government spending, labour productivity, government bonds, and interest rates. Furthermore, researchers have considered macroeconomic indicators to create multiple models for forecasting public debt and its trends. This study gives a unique approach to identifying the most indispensable indicators across multiple macroeconomic domains, including the degree of economic openness, corruption, real GDP growth rate, savings, etc.



Literature Review

Public debt has been the cornerstone of various studies in the literature, with many analysing its relationship with economic growth (Example: - Bettina Fincke and Alfred Greiner, 2013) [1], or unique macroeconomic variables like on unemployment rate (Example: - Hassan, Morsheda; Nassar, Raja, 2015).

However, comparatively fewer studies have sought to evaluate the primary factors influencing its magnitude. Even amongst them, some papers analyse impact of only one variable on debt-to-GDP ratio such as public spending (Example: - Pedro Leao, 2013) [2]. Moreover, while some research aims to highlight the determinants of public debt within individual countries (Example: - Miroslava KNAPKOVA, Martin KIABA2, Samuel HUDEC,2019; on Slovakia) [11], there are also studies which examine this issue across more than one country (Example: - Bogdan Florin FILIP).

The Academic Literature broadly acknowledges that the amount of a nation's current public debt is significantly related to innumerable macroeconomic factors. These factors comprise of the ongoing conditions of economic growth, the extent of trade openness, the levels of inflation, trends in exchange rates, current interest rates, trajectory of investment, and the state of unemployment within the country. Additionally, the configuration of the debt and the conditions pertaining to its repayment also contribute to shaping its dimensions.

In addition to these primary economic determinants, scholarly research also highlights the importance of institutional and political dynamics in influencing the accumulation of a country's public debt. Institutional frameworks, consisting of fiscal policies and regulatory mechanisms, along with political decisions, corruption (Example: - Ghania Atigasani, Nairobi, Arif Darmawan, 2022) [8] and governance structures, play indispensable roles in evaluating the level and trajectory of public debt. The interaction of these diversified factors emphasises the complexity of understanding and managing public debt in the context of wider economic and political zones.

In recent times, there has been an intense debate regarding the relationship between public debt and GDP growth, an issue that has been at the core of economic and policy discussions. The ongoing notion in mainstream literature is of the view that augmented amounts of public debt could become an obstacle in economic growth.

According to neoclassical views, an excessively elevated government debt is believed to have dangerous impact on growth rates, both in the short and long term, through multiple ways. These channels comprise of the chances of increased long-term interest rates, augmented distortionary taxation in the future, decreased investment in public infrastructure, higher inflation, and large uncertainty pertaining to economic prospects and policy directions. In more adverse circumstances, for example, during a debt crisis, the consequences may be worsened, potentially causing banking or currency crises.

However, in spite of considerable research, there still remains a lack of agreement among mainstream scholars regarding the accurate connection between these variables, with a lot of ambiguity in the results of the empirical models.

Some other authors tried to analyse the possibility of a reverse causality running from growth to debt. However, around this view also, there is no consensus till now.

Therefore, as mentioned by Panizza and Presbiero (2013), there is not a robust result because little fluctuations in data or the econometric methods yield diverse results regarding the causal relationship.

Data and Research Methodology

In this research analysis, building the foundation upon prior research and literature on public debt and its determinants, our objective is to examine the tangible influence of multiple variables on the accumulation of public debt. This study is a descriptive and quantitative study. This research utilizes secondary data where the variables are related to the debt to GDP ratio. For our research, panel data spanning from 2011 to 2022, encompassing 10 different countries has been collected focusing on variables as mentioned below in the Table 1.

Our methodology includes employing statistical tools, particularly linear regression models, to investigate the impact of certain determinants on the accumulation of public debt. The linear regression model gives us the opportunity to specify the interrelationships between several variables. The method used is OLS regression analysis. All statistical computations leading to the creation of a linear regression model were done in STATA.

Following the precedent set by previous studies, we will use the indicator called the General Government consolidated gross debt as a percentage of GDP, generally referred to as the debt-to-GDP ratio (DEBT), both as a proxy for public debt and as the dependent variable (Y). The determinants under evaluation, serving as independent variables, will be represented by various indicators as outlined in Table 1.

Table 1: Determinants of Public Debt Accumulation

Independent Variables	Indicator Name	Indicator Symbol	Expected Influence	Source
Inflation	Inflation rate, end of period consumer prices (Annual percent change)	INFL	Negative	IMF
Public Expenditure	Government expenditure, percent of GDP (% of GDP)	GEXP	Positive	IMF
GDP Growth	Log of Real GDP growth rate (Annual Percentage change)	LNGDPGR	Negative	IMF
Savings	Gross national savings (% of GDP)	SAV	Positive	IMF
Corruption	Corruption Perception Index Score	CORR	Positive	Transparency International
Net lending	General government net lending/borrowing (Percent of GDP)	NETL	Negative	IMF
Openness	Sum of exports and imports of goods and services (% of GDP)	OPEN	Negative	World Bank
FDI	Foreign direct investment, net inflows (% of GDP)	FDI	Negative	World Bank

Regression Model

$(DEBT)it = \beta_0 + \beta_1(INFL)_{it} + \beta_2(GEXP)_{it} + \beta_3(LNGDPGR)_{it} + \beta_4(SAV)_{it} + \beta_5(CORR)_{it} + \beta_6(NETL)_{it} + \beta_7(OPEN)_{it} + \beta_8(FDI)_{it} + u_i$

Where 'i' = 1, 2, …., 10 (representing 10 countries) and't' ranges from 2011 to 2022; ui is the error term.

Hypothesis
H_0: $\beta_j = 0$
H_a: $\beta_j \neq 0$ where j = 1, 2, …., 8

Assumptions
The linear regression model must meet certain assumptions in order to predict the development of public debt.

1. **Linearity:** The regression model is linear in parameters.
2. **Independence:** Observations are independent of each other.
3. **Fixed X and variability in X:** The independent variable is fixed in repeated sampling, that is, X is non stochastic. There is sufficient variability in X which implies that variance of X is finite positive number.
4. **Homoscedasticity:** The variance of the error term is constant, that is, the conditional variance of error term is same across all observations.
5. **Normality:** The error term follows a normal distribution.
6. **No autocorrelation:** This means that given any two X values, there is no correlation between the respective errors.
7. **No Multicollinearity:** There is no multicollinearity in the model. This implies that there is no perfect linear relationship between the independent variables.
8. **Zero correlation:** There is no association between error term and independent variables.
9. **No specification bias:** There is no specification error in the model.

These are the foundational assumptions of a Classical Linear Normal Regression Model, generally known as CLNRM assumptions. The reason for normality of error assumption can be tracked through Central Limit Theorem. It can be shown that if there are large number of independent and identically distributed random errors present in any model, then with few exceptions, their aggregate tends to be normally distributed if such number move towards infinity. Estimators so obtained will have minimum variance in entire class of unbiased estimators whether linear or not. Thus, the estimators are Best Unbiased Estimators (BUE).

Results and Discussion
Further examination of our observations has led to an initial set of findings, synthesised in Table 2, that characterize our sample and appends our next steps of analysis. This study uses statistical descriptive analysis techniques.

Descriptive Statistics

Table 2: Descriptive Statistics

Variables	Observations	Mean	Minimum	Maximum	Standard deviation	Skewness	Kurtosis
Debt	120	78.66	13.8	260.1	61.11	0.0000	0.0030
Infl	120	3.40	-2.1	10.7	2.92	0.0150	0.2821
Gexp	120	32.13	11.5	49.92	10.87	0.0620	0.0004
Lngdpgr	120	1.22	-1.20	3.19	0.77	0.0333	0.5834
Sav	120	25.17	11.3	42.93	7.83	0.5368	0.0000
Corr	120	59.31	25	95	21.49	0.1866	0.0000
Netl	120	-3.99	-14	9.9	4.15	0.0369	0.0119
Open	120	69.86	23.39	252.5	61.80	0.0000	0.0176
Fdi	120	3.98	-11.69	81.08	9.48	0.0000	0.0000

This shows that the average debt to GDP ratio is about 78.67% across all the 10 countries and spanning from 2011 to 2022. Maximum debt is 260.1% which is of Japan in the year 2022 whereas the United Arab Emirates had the minimum debt of 13.8% in 2014.

Correlation
I believed it important for our initial analysis to initially identify any significant and robust correlations between the variables we used, majorly between the dependent variable and the independent variables. Therefore, through the software STATA 14, I computed pairwise correlations for our dataset, resulting in the observations presented in Table 3.

Table 3: The Correlation Matrix

	Debtto~o	Inflat~e	GovtExp	Netlen~g	Savings	Corrup~n	Openness	FDI	lngdpgr
DebttoGdpR~o	1.0000								
InflationR~e	-0.2524	1.0000							
GovtExp	0.4963	-0.2908	1.0000						
Netlending	-0.4193	-0.2447	-0.2494	1.0000					
Savings	-0.2173	0.0791	-0.7517	0.3773	1.0000				
Corruption	0.3032	-0.6207	0.6307	0.1689	-0.3781	1.0000			
Openness	-0.2058	-0.3271	-0.0646	0.3812	0.3708	0.3409	1.0000		
FDI	0.0109	-0.2282	0.0411	0.0536	0.0616	0.1396	0.4869	1.0000	
lngdpgr	-0.5032	0.3598	-0.5697	0.0811	0.4630	-0.3797	0.1957	0.2184	1.0000

Table 3 shows first of all, as anticipated, and in accordance to the previous studies, that the strongest correlation which was found was between the current debt to GDP ratio, which is our dependent variable, and the log value of real GDP growth rate (coef. = -0.5032), confirming the idea of negative dependency of the current public debt on the economic growth.

As expected, we found also very significant and positive correlations between the debt to GDP ratio and the variables reflecting the Expenditure of the Government (coef.=0.4963), the corruption (coef. = 0.3032). However, we found also positive even almost insignificant correlations of current debt to GDP ratio with FDI, which appear in contradiction to the expectations determined by other similar studies.

As expected, the relationship between public debt and net lending appears also to be negative and significant. Finally, results in Table 3 show negative correlations between the debt to GDP ratio and savings, inflation rate and also openness.

OLS Regression

Going further towards the target of our study and based on the previous considerations and the results commented above, we will use in the next step of our analysis the OLS model shown before, attempting to identify which are the main determinants that drive the public debt level. The results obtained by using the considered models are summarised in Table 4.

Table 4: OLS Regression Results

Source	SS	df	MS	Number of obs	=	105
				F(8, 96)	=	23.24
Model	231983.901	8	28997.9876	Prob > F	=	0.0000
Residual	119784.967	96	1247.76007	R-squared	=	0.6595
				Adj R-squared	=	0.6311
Total	351768.868	104	3382.39296	Root MSE	=	35.324

DebttoGdpRa~o	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lngdpgr	-26.34196	6.188208	-4.26	0.000	-38.62546	-14.05846
InflationRate	-1.306652	1.733199	-0.75	0.453	-4.747025	2.133722
GovtExp	2.897258	.6537348	4.43	0.000	1.599605	4.194912
Netlending	-7.490872	1.158972	-6.46	0.000	-9.791413	-5.190331
Savings	5.847622	.7998683	7.31	0.000	4.259896	7.435348
Corruption	.7596526	.2858278	2.66	0.009	.1922889	1.327016
Openness	-.4004778	.0841425	-4.76	0.000	-.5674994	-.2334562
FDI	1.161453	.4346654	2.67	0.009	.2986493	2.024257
_cons	-175.2732	38.37187	-4.57	0.000	-251.4408	-99.10564

We observed the data of 10 countries in 10 years. From this OLS regression table, with a total sample of 105 observations, we realise that the major impact on fluctuations in Debt to GDP ratio is due to Growth rate of Real GDP ('g' in the equation below). The observed dependence confirms the existing empirical findings and basic assumptions.

The coefficient of about -26.342 with a standard error of 6.19 implies that with 1 percent increase in Real GDP growth rate, on an average, there will be an approximate decrease of 26.432 percent in debt to GDP ratio. The anticipated inverse relation is highlighted by the negative sign in the coefficient value. Also, the P value of the calculated t statistic is 0.00 which is lesser than the level of significance which is assumed to be 5%. This shows that the Real GDP growth rate is a significant factor influencing public debt in a nation as null hypothesis of coefficient being 0 is rejected. From the equation too, rise in 'g' will lead to a fall in Bt/Yt.

$$\frac{B_t}{Y_t} - \frac{B_{t-1}}{Y_{t-1}} = (r-g)\frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t}$$

Where Bt is the debt (borrowings) in t time period, Yt is the GDP, r is the real interest rate, g is the growth rate, Gt is the govt. expenditure and Tt represents govt. revenue.

Moreover, as expected from the economic theory in equation above, rise in government expenditure (Gt) will lead to a further rise in debt to GDP ratio (indicated by positive sign) and, it is also a significant variable (as clearly shown by the P value of 0.00) in the study of determinants affecting the public debt. A 1% rise in public expenditure leads to 2.89% rise in average debt to GDP ratio.

Also, a 1 percent increase in inflation rate will lead to a 1.31 percent fall in average debt to GDP ratio but the P value of 0.453 indicates that it is not a significant factor while analysing the accumulation of government debt. Similarly, we see that a 1% rise in net lending by the government, on an average, cause a significant decline of about 7.5% in the Debt to GDP ratio.

Not only this, increase in savings rate by 1% will cause a significant increase of 5.84% in average Debt to GDP ratio. The positive relation is also highlighted by the macroeconomic theory shown in the equation below. Increase in savings will directly increase primary deficit, thus causing a rise in public debt.

$$S = I + G - T + NX$$

Where S represents the savings, I represents Investment, G-T depicts Primary Deficit and NX shows Net exports.

Another significant variable is the prevalent corruption levels in the country in that time period. More the corruption in the country, more is the debt to GDP ratio of the countries.

Other than this, if a country shows openness towards trade, its debt accumulation will fall but the decrease is not very

huge. A 1% increase in trade levels of a country results in only 0.4% decline in the average debt to GDP ratio. Both corruption and openness of the country significantly impact the public debt as highlighted by P value which is lesser than 0.05.

In addition to this, the effect of Foreign Direct Investments (FDI) is also very significant. The positive coefficient value indicates a direct relation of FDI level and public debt accumulation. A 1 percentage change in FDI leads to on an average 1.16 percentage positive change in debt to GDP ratio. This result is somewhat in opposition to the economic theory behind this. But it can be due to the specific sample selection of the countries and the time period.

Also, the constant term or the intercept term of about -175.27 signifies that if all the independent variables we considered are equal to 0, then the average debt to GDP ratio will be -175.27 percent.

Now, the most important observation is about the coefficient of variation (R^2) determination which tells us the goodness of the fit of the model. It expresses how much percent of the development of the dependent variable the model is able to explain. It gives us the answer of the question, "how much variation in the dependent variable (Y) can be explained by the independent variables (Xi) in the model?". Adjusted R^2, which is adjusted to take into account the number of estimated model parameters and also the number of observations for all variables, gives us the better estimate when our model contains more than one independent variable.

Its value lies between 0 and 1. It is usually lesser than the value of R^2. If the value of Adjusted R^2 is higher than 0.5, it represents a good model. Closer the value to 1, better is the regression model.

In the above model, the OLS regression model gives us the value of Adjusted R^2 which is equal to 0.63. It implies that about 63% of the variation in Debt to GDP ratio has been explained by the model.

Another 37% of the variation can be explained by the variables other than those already incorporated in the model. This may include unemployment rate, real interest rate, current account balance, population, age dependency etc.

Also, the P value of F statistic is 0.00 which is lesser than the assumed level of significance at 5%. This means we reject the null hypothesis, which states that $R^2 = 0$ or the model is insignificant.

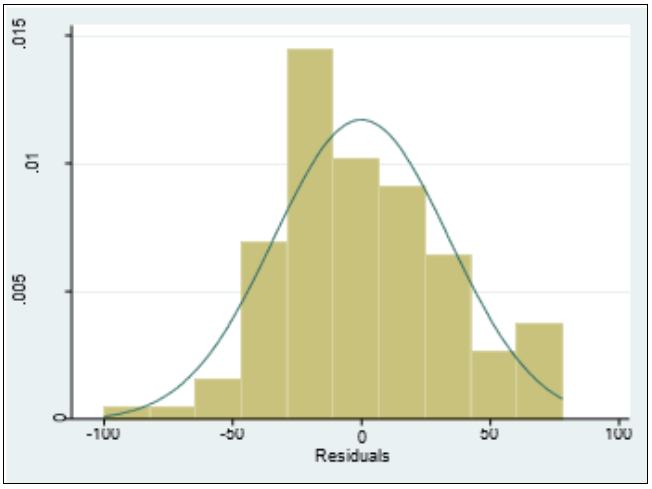
The value of Adjusted R^2 is greater than 0.5, which implies that a significant variation has been already explained by our model, indicating a good model.

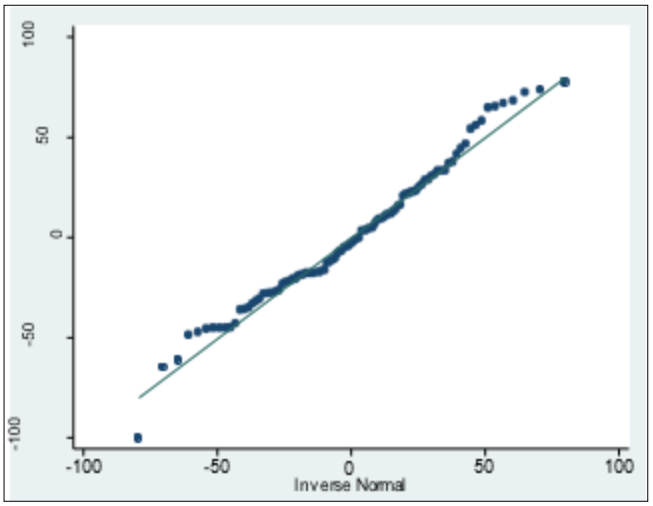
After the estimation of results, it is very crucial to test the model if it satisfies the basic assumptions that we mentioned before.

Testing Of the Model

The linear regression model is feasible to use if the model meets classical assumptions and is free from classical assumption tests, namely multicollinearity, heteroskedasticity, autocorrelation, omitted variables and normality tests. If the model is to be suitable to predict the public debt, then it has to fulfil several statistical assumptions.

Normality of errors





It can be clearly seen from the above histogram that the distribution depicts the normal distribution of errors. Moreover, the points on the normality plot fall approximately along a straight line, it suggests that the residuals are normally distributed. This indicates that the assumption of normality for the residuals is reasonable.

Homoscedasticity of Errors

Both the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity and White's Test indicate that the errors do not have constant variance, that is, the residuals are heteroscedastic. According to the tests, both give the P value which is lesser than level of significance 5% that implies rejecting the null hypothesis which stated Further using Jarque Bera Normality test, it can be concluded that errors are normally distributed as the P value (0.6763) is greater than the assumed level of significance of 5%. This implies that we will not reject the null hypothesis which states that residuals are normally distributed.

That the errors have constant variance or homoskedasticity.

To overcome the problem of homoscedasticity, we run the robust regression which gave us more robust results. The results so obtained have been synthesised in the following table 5.

Table 5: Robust Regression Results

Linear regression — Number of obs = 105; F(8, 96) = 16.81; Prob > F = 0.0000; R-squared = 0.6595; Root MSE = 35.324

DebttoGdpRa~o	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lngdpgr	-26.34196	6.722392	-3.92	0.000	-39.6858	-12.99812
InflationRate	-1.306652	2.008037	-0.65	0.517	-5.292574	2.67927
GovtExp	2.897258	.668648	4.33	0.000	1.570003	4.224514
Netlending	-7.490872	1.10382	-6.79	0.000	-9.681936	-5.299807
Savings	5.847622	1.021599	5.72	0.000	3.819764	7.87548
Corruption	.7596526	.3136894	2.42	0.017	.136984	1.382321
Openness	-.4004778	.1087767	-3.68	0.000	-.6163978	-.1845578
FDI	1.161453	.3909024	2.97	0.004	.3855182	1.937389
_cons	-175.2732	41.62358	-4.21	0.000	-257.8954	-92.65104

No multicollinearity

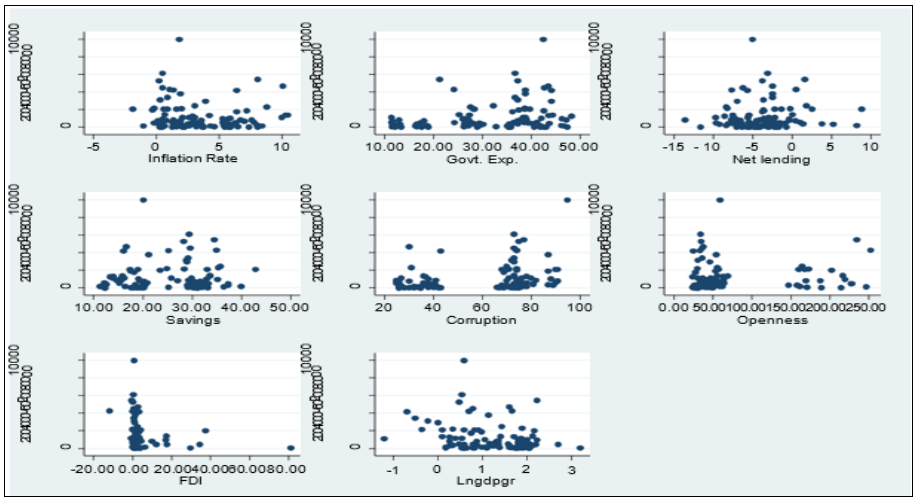
Variable	VIF	1/VIF
GovtExp	4.07	0.245529
Corruption	3.30	0.302861
Savings	3.22	0.310172
Openness	2.31	0.432447
InflationR~e	2.03	0.492609
lngdpgr	1.91	0.522760
FDI	1.54	0.649702
Netlending	1.45	0.689867
Mean VIF	2.48	

The multicollinearity test in this study was carried out by looking at the variance inflation factor (VIF) values. The results of the calculation of the VIF value gives the mean VIF of 2.48 which is very less. Therefore, it can be concluded that the linear regression model in this study did not occur with the problem of multicollinearity or there is a very low multicollinearity among the independent variables.

Omitted variables

Ramsay's Test has been utilized to check if there exist any omitted variables in the model. The P value obtained is 0.0000 which is lesser than 0.05, the level of significance. Therefore, the null hypothesis stating that the model has no omitted variables has been rejected. Hence, it can be concluded that our model contains some omitted variables which can be unemployment rate, fiscal transparency, current account balance, real interest rate and other qualitative variables. But the Adjusted R^2 of 0.63 indicates that 63% of the variation in debt to GDP ratio has been explained by the model.

Correlation between residual and independent variables



The correlation between the residual term and independent variables should be ideally close to zero in a well-specified regression model. If the residuals show significant correlation with the independent variables, then this problem may arise due to omitted variables or heteroscedastic errors.

The figure above shows a panel of scatterplots between the square of residual term on y axis and each independent variable on x axis.

It highlights that the errors are highly correlated with inflation rate, government expenditure, savings and log of real GDP growth rate, whereas it is least correlated with FDI. The residual term shows moderate correlation with corruption and openness.

Finding and resolving such problems is necessary for ensuring the reliability of regression analysis results. Methods such as inclusion of additional relevant variables, transforming the variables, or utilising robust standard errors can help address some of these issues. Furthermore, tests like the Durbin-Watson test for autocorrelation and Breusch-Pagan test for heteroscedasticity provide insights into the presence of such problems.

Conclusion

The COVID-19 pandemic has resulted in an economic crisis at the world level, which triggered debates on multiple economic concerns in different countries. One such debatable topic is the spur in public debt recorded in various nations. As countries struggle with the issue of financing development projects which usually excel their current resources, borrowing becomes a mandatory action, causing an increase in public debt. However, when public debt surpasses a certain threshold limit, it can hinder development progress and necessitates careful management.

Countries worldwide share concerns about controlling public debt efficiently. To resolve this, it is indispensable to find the significant factors affecting its amount. Our research emphasises on analysing the major determinants influencing public debt levels in ten countries between 2011 and 2022. Multiple elements contribute to the accumulation of public debt, spanning historical, political, and economic domains. Given the complexity of this problem, we focus on macroeconomic indicators to understand their effect on government debt and identify those with the most significant impact.

We meticulously chose these macroeconomic indicators on the basis of existing scientific studies and research in the field, appended by our own considerations. A crucial criterion in our selection process was ensuring that the chosen indicators depict diverse aspects of macroeconomics.

We can easily observe from the first graph that the debt accumulated by Japan is extremely high in comparison to all the countries chosen for the study. The debt levels of other countries are not fluctuating much between the time period 2011 and 2022, except a rise in 2020 due to COVID 19 pandemic.

We can conclude that Debt to GDP ratio is positively and significantly influenced by expenditure of the government, corruption in the country, savings and foreign direct investment into the economy. However real GDP growth rate, net lending and openness of an economy in terms of exports and imports have a significant negative impact on the public debt. Through this study, we also found that the inflation rate and debt to GDP ratio has an inverse relation but it is not very significant.

In conclusion, we observe that fostering an environment congenial to both economic and social development is indispensable for maintaining the accumulation of public debt efficiently. It's important for government to prioritize strategies that boost economic growth and create opportunities for social advancement. Furthermore, proactive measures to prevent or mitigate recessions, such as robust fiscal and monetary policies, are required for maintaining stability and fiscal sustainability. In essence, the major aim lies in fostering a dynamic and resilient economy that can withstand external shocks and can resolve challenges effectively. By prioritizing economic and social development initiatives, countries can not only manage their public debt levels but also ensure long-term prosperity for their citizens.

References

1. Bettina Fincke Alfred Greiner. On the relation between public debt and economic growth: An empirical investigation, 2013. https://deliverypdf.ssrn.com/delivery.php?ID=563006110027085018082081110098079110102013067092070087126002109100016084077078116113099122116002019 025028002081111114029083078126032013032039092011120124029086014095 05 703900309007112207912402910507512110507200 102500612511607700812406903100703009709912 6&EXT=pdf&INDEX=TRUE
2. Pedro Leao. The Effect of Government Spending on the Debt-to-GDP Ratio: Some Keynesian Arithmetic, 2013. https://onlinelibrary.wiley.com/doi/abs/10.1111/meca.12013?casa_token=UDFhXgi4 OEkAAAAA:QP5gu_jNKsVHLq XleEwpy2q4zNeSFPeB3QlFekRBHHSMv1XL5hdiHZQdaSy2qIHfuR8vHD4uZafmtfE
3. Data on Inflation rate, Public Expenditure, Real GDP growth rate, Savings and Debt to GDP ratio. https://www.imf.org/en/Data
4. Data on Openness of the economy (Trade) and Foreign Direct Investments (FDI). https://data.worldbank.org/
5. Data on Corruption. https://www.transparency.org/en/cpi/2023
6. Vighneswara Swamy. Government Debt and its Macroeconomic Determinants – An Empirical Investigation, 2015. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2601875
7. Tomislav GLOBAN and Marina MATOŠEC. public debt-to-gdp ratio in new eu member states: cut the numerator or increase the denominator, 2016. https://ipe.ro/rjef/rjef3_16/rjef3_2016p57-72.pdf
8. Ghania Atiqasani, Nairobi, Arif Darmawan. Determinants of Public Debt Ratio in Middle-Income Countries, 2022. Determinants of Public Debt for middle income and high income group countries using Panel Data regression Munich Personal RePEc Archive (uni-muenchen.de)
9. Bogdan Florin FILIP: Determinants of public debt. The case of the European Union countries http://store.ectap.ro/suplimente/International_Finance_and_Banking_Conference_FIBA_2019_XVII.pdf#page=61
10. Evan Lau, Alvina Syn-Yee Lee (2016): Determinants of External Debt in Thailand and the

Philippines https://dergipark.org.tr/en/download/article-file/366276
11. Miroslava Knapková, Martin Kiaba, Samuel Hudec. Impact of Macroeconomic Indicators on Public Debt of Slovak Republic Impact of macroeconomic indicators on public debt of Slovak Republic Journal of Business Economics and Management vgtu.lt, 2019.
12. Sinha, Pankaj and Arora, Varun and Bansal, Vishakha Determinants of Public Debt for middle income and high income group countries using Panel Data regression, 2011. https://mpra.ub.uni muenchen.de/32079/
13. Petar Kurečić1 Filip Kokotović. Relevance of public debt-to-GDP ratio correlation with significant macroeconomic indicators, 2016. https://www.academia.edu/download/46420156/The_Public_Debt_to_GDP_Ratio.p df
14. S Thakur. Public debt and regional inequality in India: patterns, determinants, and implication, 2023. https://link.springer.com/article/10.1007/s10708-022-10599-3