



RESEARCH PAPER

Socioeconomic and Political Determinants of Public Spending Allocations: A Panel Data Analysis of Aggregate and Sectoral Spending

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ABSTRACT

A well-established segment of economic literature argues for an efficient allocation of resources to overcome poor growth performance, poverty, and inequality. However, the resource allocation response towards these economic issues varies across countries. Based on their respective socio-economic and political fabric, countries set priorities and accordingly allocate the available resources towards different sectors of the economy. The sectoral allocation of the available resource pie has repercussions for various economic variables like growth, poverty, and income inequality. In this context, this study contributes to the existing literature on the subject in two ways. First, this study aims to assess the factors that determine overall public spending across economies by focusing on socio-economic, political, and institutional factors. Second, the study examines the role of those factors in determining health, education, infrastructure, and defence spending. The study uses the panel data of 104 countries for the period 1990-2016 and employs FE-IV method to conclude that bureaucratic quality, democratic accountability, internal conflict, external conflict, government stability, and military involvement are the main institutional and economic variables determining public spending allocations at the aggregate and sectoral levels.

Introduction

Economics is considered the science of efficient utilization of scarce resources since Robbins' (1935) formulated definition. In the 19th century, most economists proposed limited government intervention in economic affairs and advocated for

Laissez-Faire. The main reason behind this argument was unsuccessful outcomes in the 18th century due to heavy government intervention (Tanzi & Schuknecht, 2000). However, after WWI, arguments regarding government functions shifted after Keynes' (1936) recommendations at the time of the great depression. According to Keynes (1936), the government has an important role in regulating and improving a country's economic performance. Hence, Keynes suggests clear recommendations for government involvement in the economic affairs of a country.

With the advent of Keynes' framework, public spending programs have found a space in economic literature. For instance, Devarajan et al. (1996) explore several channels through which these public spending programs affect economic performance. However, the complexity of these effects is not easy to trace and measure. Yet, the composition and allocation of public spending have emerged as a gauge for development agencies to measure the speed of economic development.

Most economies of the globe, especially developing countries, have resource constraints. Hence, in economic literature, the allocation of resources plays a vital role in an economy's growth and development process. These studies argue that not resources themselves, but the composition and allocation of the resources signify their role in the growth and development process. Among these compositional heads, health spending (*HEAEXP* hereafter), education spending (*EDUEXP* hereafter), defence spending (*DEFEXP* hereafter) and infrastructure spending (*INFEXP* hereafter) are the key sectors that play an essential role in determining the living standard of a nation. It is also to be noted that the allocation of resources should be a zero-sum game. In developing countries, governments decide the fate of one sector at the cost of another due to limited resources. Most recently, some empirical studies present composition and allocation of resources as the driving force of growth and development. In this regard, a body of literature seeks to connect government budget goals with development (Barro 1990; Devarajan et al. 1996). These studies also include analyses of factors that determine the structure and compositions of public spending at state and sub-national levels (Mahdavi 2004; Mauro 1998). Some of them hypothesize that countries that rotate a reasonable amount of resources (public expenditures) to development could sustain economic growth, productive employment and poverty alleviation compared to those which allocate more resources to non-developmental expenditures. These studies mainly present their argument in the classical economic framework, which states that allocation of public expenditures in the development sector can improve the capacity of real factors of economic growth. On the other hand, countries that devote more resources to non-development expenditures cannot sustain economic growth and, therefore, productive employment and poverty alleviation.

In light of the importance of public spending allocations in the growth and development process, this study focuses on exploring factors that explain the allocation of public spending for various important sectors of the economy. The factors are grouped into three main groups: political and institutional, demographic, and

economic. In this context, this study strives to answer why different countries have different public spending allocations and what particular factors affect it.

Literature Review

Public spending allocation at an aggregated level and disaggregated level has got importance in the modern economic era. Patterns and composition of government expenditures in the world have changed dramatically and significantly in recent decades. Therefore, it is imperative to track the structure, composition and trend of levels and combination of public spending allocation.

Several theoretical enlightenments have been provided in the received literature to highlight the increase in public spending over the years. Wagner (1883) was the first economist to link growth of the economy and population growth as the main drivers of growth in public spending using industrial welfare states. Wagner's law argues that a welfare state is derived from free-market capitalism because of an electoral system in which populations vote for rising free-market capitalism by increasing the level of public income across a wide range of economies to rising social services.

Based on Wagner (1883) study, Peacock and Weissman (1961) also claimed that public spending increases when governments spend on various services, such as health, education, infrastructure, defence etc. In addition, the governments increase tax rates during the wars to create more resources to respond to increased defence expenditures; this increase in revenue thus leads to increased public spending (Peacock & Wiseman, 1961). Moreover, increased public spending, on the other hand, can have serious economic problems that could change appropriations and compositions for public expenditures.

Okafor and Eiya (2011) studied the factors of growth of public spending in Nigeria between 1999 and 2008. Their outcomes show that the inflation rate has an adverse relationship with public spending, while population growth has an encouraging relationship with public spending. Similarly, the study of Tayeh and Mustafa (2011) also showed that population rates, unemployment and inflation have a significant impact on public spending in Jordan. In contrast, Ofori-Abebrese's (2012) conclusions show that growth in trade, real GDP, and inflation will reduce public spending as a percentage of GDP.

Oil revenues, GDP, socio-economic population, open trade, oil prices, taxes and inflation are key variables to explain the determinants of the size of public spending, in a recent study conducted by Jibir and Aluthge (2019) in Nigeria. All the above-cited studies have shown that population growth is a reliable and vital determinant of public spending allocation while ignoring many institutional and political variables, which also play an important role in determining public spending decisions in high-, low-, and middle-income countries.

The evidence for the support of Wagner's Law has received substantial attention in the existing literature. Many empirical studies have provided indications in favour of Wagner's Law, concluding that results differ due to factors such as the nature of the country and the methodology used to investigate the relationship. These include studies conducted by Lamartina and Zaghini (2010) and Islam (2001).

Empirically, several country-specific studies (Jibir & Aluthge 2019; Okafor & Eiya 2011) review public spending determinants using the growth rate of the overall population as a variable. Some of the other panel studies investigate the effects of the old age population on *HEAEXP*. However, their focus was not on investigating the role of population age structure on public expenditure and its composition.

A limited number of studies have tried to explain how corruption (*CORR* hereafter) in the budget process changes the distribution of public spending between economic functions and different sectors of the economy. Some studies have targeted a specific area of privatization (Mauro 1998) or military spending (Gupta et al. 2001). However, all the studies consider sectoral spending as a percentage of *GDP* and not as a percentage of the overall budget.

Material and Methods

Historically, there are two approaches regarding studying the public expenditure allocations. Firstly, economists approached the study of public expenditures from a prescriptive point of view. The focus of these earlier studies was to set up criteria for the size and nature of government expenditures and income. These studies utilize techniques similar to studies on market economies. The development of the Keynesian theories of economic stability has also highlighted government expenditures as an important factor in a macro static economic model that was part of these studies. Since WW-II, the growing interest of economists to address the problems associated with economic dynamics and growth, public spending becomes the focal point of the studies in the same context (Harrod 1948; Domer 1957). Several studies introduce various approaches and models to analyze the long-run effects of public expenditures explicitly and implicitly on growth (Smith 1957; Kurihara 1956).

The second school of thought (Hewitt, 1992, 1993) about public spending is explanatory rather than descriptive. It aims mainly to explain the phenomenon of growing military and national debt commitments. They have hypothesized an increase in military expenditures in different sectors of the economy like health, education, infrastructure, etc. For instance, Hewitt (1992, 1993) used public choice framework to explore the determinants of military spending by government dividing public spending into two categories: military spending and non-military spending. The model is extended by Nyamongo (2007), who attempted to explore the factors that determine the composition of government expenditures for Africa.

Model Specification and Data

Based on the above framework, this study uses the public choice approach to augment the model of Hewitt (1993). Hence, to explore the impact of socio-economic, political, and institutional factors on public spending allocation, the following baseline models are estimated. The estimated model considers economic, political, and institutional determinants of public spending allocations.

$$\begin{aligned} \ln TPS_{it} = & \alpha_0 + \alpha_1 \ln BQ_{it} + \alpha_2 \ln CORR_{it} + \alpha_3 \ln EC_{it} + \alpha_4 \ln IC_{it} + \alpha_5 \ln GS_{it} + \\ & \alpha_6 \ln DA_{it} + \alpha_7 \ln MP_{it} + \alpha_8 PG + \alpha_9 \ln CGD_{it} + \alpha_{10} \ln TR_{it} + \alpha_{11} \ln INF_{it} + \alpha_{12} \ln PC_{it} + \\ & \eta_i + u_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} DEFEXP_{it} = & \alpha_0 + \alpha_1 \ln BQ_{it} + \alpha_2 \ln CORR_{it} + \alpha_3 \ln EC_{it} + \alpha_4 \ln IC_{it} + \\ & \alpha_5 \ln GS_{it} + \alpha_6 \ln DA_{it} + \alpha_7 \ln MP_{it} + \alpha_8 PG + \alpha_9 \ln CGD_{it} + \alpha_{10} \ln TR_{it} + \alpha_{11} \ln INF_{it} + \\ & \alpha_{12} \ln PC_{it} + \eta_i + u_{it} \end{aligned} \quad (2)$$

$$\begin{aligned} HEAEXP_{it} = & \alpha_0 + \alpha_1 \ln BQ_{it} + \alpha_2 \ln CORR_{it} + \alpha_3 \ln EC_{it} + \alpha_4 \ln IC_{it} + \\ & \alpha_5 \ln GS_{it} + \alpha_6 \ln DA_{it} + \alpha_7 \ln MP_{it} + \alpha_8 PG + \alpha_9 \ln CGD_{it} + \alpha_{10} \ln TR_{it} + \alpha_{11} \ln INF_{it} + \\ & \alpha_{12} \ln PC_{it} + \eta_i + u_{it} \end{aligned} \quad (3)$$

$$\begin{aligned} EDUEXP_{it} = & \alpha_0 + \alpha_1 \ln BQ_{it} + \alpha_2 \ln CORR_{it} + \alpha_3 \ln EC_{it} + \alpha_4 \ln IC_{it} + \\ & \alpha_5 \ln GS_{it} + \alpha_6 \ln DA_{it} + \alpha_7 \ln MP_{it} + \alpha_8 PG + \alpha_9 \ln CGD_{it} + \alpha_{10} \ln TR_{it} + \alpha_{11} \ln INF_{it} + \\ & \alpha_{12} \ln PC_{it} + \eta_i + u_{it} \end{aligned} \quad (4)$$

$$\begin{aligned} INFEXP_{it} = & \alpha_0 + \alpha_1 \ln BQ_{it} + \alpha_2 \ln CORR_{it} + \alpha_3 \ln EC_{it} + \alpha_4 \ln IC_{it} + \\ & \alpha_5 \ln GS_{it} + \alpha_6 \ln DA_{it} + \alpha_7 \ln MP_{it} + \alpha_8 PG + \alpha_9 \ln CGD_{it} + \alpha_{10} \ln TR_{it} + \alpha_{11} \ln INF_{it} + \\ & \alpha_{12} \ln PC_{it} + \eta_i + u_{it} \end{aligned} \quad (5)$$

The dependent variable is public spending allocation, which is captured through five different measures, namely total public spending (*TPS*), education spending (*EDUEXP*), health spending (*HEAEXP*), defence spending (*DEFEXP*) and infrastructure spending (*INFEXP*). *TPS* refers to the public sector's expenditure on the purchase of goods and the provision of services such as education, health, social security, and defence. Data for the total government spending is obtained from the world bank database. *EDUEXP* is an indicator of sectoral spending. *EDUEXP* Covers the public spending on schools, universities, and other public and private educational institutions. *HEAEXP* includes expenditure on medical care and goods, public health and preventive programmers and administration from both public and private sources but excludes spending on the capital formation (investments). *DEFEXP* shows the spending on the military, the amount allocated by a country to raising and maintaining an armed force. *INFEXP* includes public spending on the telecommunication sector and roads and railway network. The data set for spending allocation is taken from IFPRI, the World Bank.

Among the political and institutional indicators of public spending allocations, we have included seven variables. The data for these variables have been taken from the ICRG data bank. Our first determinant of public spending is the bureaucratic

quality (*BQ*). The variable shows the ability of a government to absorb different kinds of shocks and minimizes chances of revision of policy. More points have been given to a country with strong *BQ*. The second institutional and political variable is *CORR*. *ICRG* defines *CORR* as "an assessment of *CORR* within the political system". A lower value of *CORR* index shows more corruption and higher value is given for less corruption. The third variable is external Conflict (*EC*). *ICRG* defines *EC* as "a measure of an assessment both of the risk to the incumbent government from foreign action, ranging from non-violent external pressure to violent external pressure". A high score represents very low risk and a score of 0 points to very high risk.

The fourth institutional and political variable is internal conflict (*IC*). *ICRG* defines *IC* as "an assessment of political violence in the country" and its actual or potential impact on governance. The highest score represents fewer conflicts and vice versa. The fifth indicator is government stability (*GS*). *ICRG* defines *GS* as "an assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office". The next institutional determinant is democratic accountability (*DA*). This is defined by *ICRG* as "a measure of how responsive government is to its people." The highest number of risk points (lowest risk) is assigned to Alternating Democracies, while the lowest number of risk points (highest risk) is assigned to Autarchies. Military in politics (*MP*) is defined as "a measure of the military's involvement in politics." *ICRG* assigns a lower index value to lesser military involvement in the government and vice versa.

Population growth is included as a demographic measured through annual percentage change in the population. Among economic indicators of public spending allocations study has included four leading indicators. The first economic indicator is central government debt (*CGD*) which is measured as the central government debt to *GDP* ratio. The second economic determinant is tax revenue (*TR*). *TR* is the revenue that governments receive from taxation. Economic growth is the third variable measured through per capita income (*PC*). The last economic determinant inflation rate (*INF*) is the percentage change in the Consumer Price Index (*CPI*). The data for demographic and economic variables are taken from *WDI*.

This study uses the panel data of 104 developing and developed countries¹ for the period 1990-2016.

Results and Discussion

The five empirical models have been estimated to determine the socioeconomic, political, and institutional factors considered important for total public spending, *HEAEXP*, *EDUEXP*, *INFEXP* and *DEFEXP*. The estimated results are presented in Table 1 in three parts using Fixed Effect-Instrumental Variable (*FE – IV*) method, which tackles the endogeneity problem in the model by considering various

¹ List of countries can be obtained from the authors on personal request.

instruments for all independent variables. The probability values of *Hansen J. Statistic* show that the instruments are valid.

The results presented in Table 1, model 1 indicate that bureaucratic quality (*BQ*) significantly affects TPS at an aggregate level. The estimated results reveal that as bureaucratic quality improves, overall public spending increases. The result may be justified by the fact that as the *BQ* improves, which indicates commitments of governments to carry on their announced plans, the overall public spending increases. The results are consistent with the existing literature as suggested by Naseer (2019).

Table 1
FE – IV Estimation Results

IV	DV	Model 1	Model 2	Model 3	Model 4	Model 5
	TPS	DEFEX	HEAEXP	EDUEXP	INFEXP	
A: Political and Institutional Determinants of Public Spending Allocation						
<i>LnBQ</i>	0.154** (0.008)	-0.0337 (0.606)	0.122 (0.120)	0.227*** (0.001)	0.707*** (0.006)	
<i>LnCORR</i>	-0.0764** (0.020)	0.0506 (0.324)	-0.00921 (0.884)	-0.0411 (0.440)	-0.0561 (0.588)	
<i>LnEC</i>	0.105 (0.226)	0.308*** (0.000)	-0.498*** (0.000)	-0.290*** (0.000)	-0.166 (0.490)	
<i>LnIC</i>	-0.0461* (0.078)	-0.0194 (0.667)	0.0294 (0.634)	0.0350 (0.493)	0.742*** (0.000)	
<i>LnGS</i>	-0.164*** (0.000)	-0.0446 (0.217)	-0.232*** (0.000)	-0.116*** (0.001)	-0.353*** (0.000)	
<i>LnDA</i>	0.166*** (0.000)	0.207*** (0.000)	0.346*** (0.000)	0.396*** (0.000)	0.000619 (0.998)	
<i>LnMP</i>	0.0684* (0.074)	-0.233*** (0.000)	-0.153* (0.079)	-0.0821 (0.276)	0.341 (0.116)	
B: Demographic Determinants of Public Spending Allocation						
<i>PG</i>	0.00143 (0.955)	-0.0339** (0.024)	-0.00934 (0.703)	-0.0111 (0.503)	0.0586* (0.069)	
C: Economic Determinants of Public Spending Allocation						
<i>LnCGD</i>	0.112*** (0.000)	0.0327 (0.145)	-0.0159 (0.520)	0.0178 (0.373)	0.0902* (0.041)	
<i>LnTR</i>	0.194*** (0.000)	-0.173** (0.025)	0.188*** (0.016)	0.153*** (0.008)	0.433** (0.007)	
<i>LnPC</i>	0.119*** (0.004)	0.603*** (0.000)	1.700*** (0.000)	1.413*** (0.000)	1.472*** (0.000)	
<i>INF</i>	0.00535 (0.931)	-0.0293 (0.735)	-0.119 (0.261)	-0.211* (0.066)	-0.279 (0.116)	
No. Of obs.	1245	1140	1151	1155	729	
P Value for Hansen J.Statistic	0.48	0.75	0.24	0.64	0.16	

Notes: The p-values are in parenthesis. ***, **, * indicate significance at 1%, 5% and 10% levels respectively. All models employ robust standard errors. The dependent variables are Aggregate and disaggregate public spending.

In models 3 and 4, the results indicate that *BQ* plays an important role in determining education and infrastructure spending. However, results presented in models 2 and 3 for sample countries indicate *BQ* cannot signify its role in allocating health and defence expenditures as the variable is insignificant.

The second institutional variable is corruption (*CORR*). The results presented in model 1 reveal that *CORR* holds a positive sign while it is statistically significant. The following reasons may justify our result. When public decision-makers become more corrupt, inefficiencies arise, and there is a wastage of resources. Hence increase in the level of *CORR* increase *TPS*. The results are in line with many other existing studies that show the relationship between *CORR* and *TPS* (Mauro 1996; Mauro 1997). However, *CORR* remained insignificant in affecting health, education, defence and *INFEXP*. The result is consistent with Pritchett (1996).

The results of our estimated model 1 reveal that the variable of *EC* proves to be statistically insignificant in increasing overall public spending for our sample countries. However, the variable appeared to be highly significant in affecting defence, health, and education spending allocations. One Implication of our estimated results for increasing defence and military spending despite having fewer conflicts is that it may have positive externalities, as advocated by Benoit (1978), Whynes (1979) and Barro and Sala-i-Martin (2004).

Among the institutional variables, *IC* enters in model 1 with a negative sign that is statistically significant. The estimated results indicate that total public spending increases with an increase in *IC*. The results are consistent with economic theory and are justified that as conflicts arise in a country, then government expenditures rise due to the increased expenditures on law enforcement agencies etc., to cop those conflicts. Whereas, in models 2, 3 and 4, where the dependent variables are defence, health and education expenditures, *IC* remains insignificant. However, model 5 *IC* holds a negative sign that is statistically significant.

Our next institutional variable (*GS*) holds a negative sign in all five models. Apart from model 2 *DEFEXP* in all other specifications, it is statistically significant. The estimated results reveal that public spending allocation is shrinking as a country's government gain stability. The result may be justified by Darby *et al.* (2004), who state that political uncertainty reduces investments and public spending may increase as a result of instability. The estimated results reveal that total government expenditures decrease with an increase in the level of *GS*.

GS holds a negative sign that is statistically significant in models 3, 4 and 5. When governments are stable, with no fear or danger of losing power, they spend less on health, education and infrastructure and vice versa. In addition, *GS* enters in model 2 with a negative sign that is statistically significant.

Democratic accountability (*DA*) enters the first four models positively and significantly. The estimated results indicate that country which holds relatively more accountability in their public dealings can rotate more resources towards social spending. This may be since democratic governments have more accountability and are answerable to the public than autocratic regimes. Hence, they spend more on health and education, which are in the interest of the public. The results are consistent with the findings of Pavlos (2018).

MP is another important variable that holds mixed results in our estimated models. For instance, model 1 holds a positive sign and is statistically significant. Whereas in models 2 and 3, it enters the model with a negative sign and is significant. Interestingly, in models 4 and 5, it remains insignificant. Our estimated models reveal that as the military stays away from politics, then *TPS* increases and vice versa. One possible reason that seems more relevant is that military regimes are generally more disciplined and follow tight expenditure policies, so more military involvement in politics reduces total government spending at an aggregate level. Similar results have also been highlighted by Plumper and Martin (2003).

In addition, *MP* plays a significant role in affecting *DEFEXP*. The results indicate that as the military stays away from politics, it will significantly increase defence expenditures and vice versa. The results may be justified that they may spend more on themselves as the military comes into power. The results presented in model 3 indicate a statistically significant role concerning *HEAEXP*. The results reveal that less military involvement in politics reduces *HEAEXP* and more military involvement increases health expenditures. One possible justification for this is that dictators or more participation by *MP* may increase *HEAEXP* because dictators may show their performance through this spending for the betterment of the public. Our estimated result is consistent with Bove and Nistico (2014). Moreover, in model 5, the involvement of the military in politics on *INFEXP* is proved to be insignificant.

The *PG* holds mixed results. For instance, in model 1, it is insignificant. Similarly, the population growth could not statistically signify its role in models 3 and 4. Contrary to that, population growth has a negative sign which is statistically significant in model 2. The result may be justified because as population increases, demand for increase in other needs of the society also increases, which led to a decrease in defence spending. The results are in line with the findings of Solarin (2017). Moreover, population growth holds a positive sign and is statistically significant in determining *INFEXP* in model 5.

Part c of Table 1 shows estimated coefficients of economic variables. One critical economic variable is central government debt to GDP ratio (*CGD*). The results show that increase in *CGD* increases *TPS* as the variable holds a positive sign which is statistically significant. This may be justified as governments borrow a pool of available financial resources for government spending, increasing overall public spending. Similarly, *CGD* has a positive and significant effect on *INFEXP* expenditures, which reveals those countries with higher *CGD* can allocate

more resources to *INFEXP*. The results are consistent with the findings of Obeng and Sakyi (2017), Aregbeyen and Akpan (2013), Mahdavi (2004) etc. Furthermore, the variable is having an insignificant effect on defence, health and *EDUEXP*.

In four out of five models, tax revenue (*TR*) enters positively and statistically significant. The estimated results of our models 1, 3, 4, and 5 reveal that overall public spending, health spending, education spending and infrastructure spending increases with the increase in *TR*. The results may be justifying in the Friedman (1978) revenue-spend hypothesis. The results are consistent with Aworinde (2013) and Mutascu (2017). Only in model 2, where the dependent variable is defence expenditures, it enters the model negatively that is statistically significant. The estimated results make sense due to the reason that taxpayers will be more interested than their paid taxes should be spent on health, education, and *INFEXP* rather than on defence spending.

Economic growth (*EG*) is captured through per capita income. In all model's economic growth enters positively and statistically significant. Resource allocation to different sectors increases with the expansion of the economy. The result is in line with the findings of other studies like Busemeyer (2007). In four out of five models, inflation remains insignificant. The inflation rate is statistically significant in determining public spending allocations for education expenditures, as presented in model 4. One possible justification of our result may be obtained through a reduction in *TR*. As inflation rises, purchasing power decreases which leads to a reduction in *TR* and so education expenditures by the government also decrease. The results are consistent with the findings of other studies such as Eterovic and Eterovic (2012), Okafor and Eiya (2011).

Conclusion

One of the study's key objectives is to investigate the determinants of public spending allocation, with a primary focus on institutional and political factors. Our findings indicate that bureaucratic quality (*BQ*) has a positive effect on public spending allocations at an aggregate level – as is for education and infrastructure spending. It is also revealed that overall public spending increases with an increase in the level of corruption (*CORR*). Estimated results indicate that *EC* plays an important role in determining defence, health, and education spending. It is observed that a higher level of *EC* increases health and education spending allocations. Apart from that, it is found that overall public spending and internal conflicts move in parallel, where spending on infrastructure increases as internal conflicts decrease.

GS plays a significant role in determining all forms of public spending aggregated and disaggregated for the whole sample of countries. Our estimated results show that *GS* reduces all forms of public spending allocations. Moreover, *DA* has a positive and significant effect on total public spending, defence, health, and education spending (social spending). A higher level of *DA* increases public spending for the whole sample of countries. We also find the significance of *MP* in the

determination of public spending. For instance, our results show that lower would-be defence and health expenditures come from a lesser military involvement in politics.

PG significantly affects defence spending and infrastructure spending. At the same time, *DEFEXP* and *INFEXP* reduce with an increase in population. Our findings indicate that economic indicators signify their role in the determination of public spending allocations. For instance, central government debt positively affects overall government and infrastructure spending, both of which increase with an increase in central government debt. Similarly, tax revenue and economic growth also signify their role in determining public spending allocations. An increase in tax revenue increases all types of expenditure categories except defence. Moreover, a higher level of economic growth increases both overall government spending and disaggregated government spending. The results also show that inflation negatively affects education expenditures.

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