



Gap between Budget and Expenditure in Indian Education system

Authors: Daantrana Kakoti, Gargi Shaiju, Gurmeet Kaur, Manvi Jain, Salil

Dhyani, Shivani Pawar, Zainab Fatima

1. Abstract

The present study aims to analyze the difference between the budgets allocated and expenditures incurred in India's education system. It studies the inefficiencies associated with the fund usage that influence critical educational aspects through a quantitative analysis. Contradicting the general belief that increased monetary inputs improve the quality of education, this study attempts to explain the relation between the education budget and its effects on the educational outcomes using a comprehensive "Pipeline" model, which incorporates the digital governance aspect for addressing the issue and thereby making efforts towards the realization of 6% of GDP budget requirement proposed by the Kothari Commission back in 1966.

To the research, the study uses secondary level state data from various sources like PRS India, PFMS, UDISE+, National Achievement Survey, and Indian States Budgets. The association between the budget-expenditure gap and chosen education-sector variables, including school infrastructure, teacher vacancies, and pupil-teacher ratio, was analyzed using pooled regression and Panel Data Fixed Effects approach.

Introduction

In emerging countries like India, the distribution of public resources and institutional management are critical in defining the outcome of classrooms, social equality, and perseverance of students. To achieve the objectives of Sustainable Goal, it is important to address the disparities in the education budget, school facilities, as well as institutional management. The central focus of the Literature Review is to address the barriers in the form of learning inequalities through fiscal policies, digital governance issues, and everyday problems at school. It is an attempt to synthesize the current literature pertaining to the three interconnected topics, namely National Education Budget Trends, Digital Governance, and Frontline School Management along with persistent absenteeism. The problem of mismatch between budget allocation and actual expenditure in the Indian education system is an important one, which impacts the quality, availability, and equity of education. Even though



the government has invested heavily in the education sector, there are still obstacles to the utilization and implementation of funds that are impeding its impact. The current literature review aims to explore the problem of mismatch between budgeting and expenditure in the education sector through the identification of four major themes.

Policy Targets, Budget Allocation and Expenditure Patterns

Even though policy guidelines set by various commissions such as Kothari Commission (1966) to the current National Education Policy (2020) have advocated for at least 6% of the GDP on education, spending has been much lower. Various authors have noted a gap between budget allocation and education performance because of poor management of funds and implementation challenges. Other researchers have noted that there is a low allocation of GDP towards elementary education. Although there has been an increase in the allocation of funds in the education sector ranging from The Kothari Commission (1966) to The New Education Policy (2020) and the share have gone up to 6% of the total GDP for improving elementary education in India, still there is a continuous gap existing between the public expenditure and learning outcomes, resource formation, and expenditure. One allocation of 3% of the total expenditure only on the elementary sector. The traditional educational frameworks believed in the principle that increased expenditure on Education would result in better academic performance. But research studies reveal that the actual expenditure in the education sector is only 4% GDP and 1.5% in the case of elementary education. There is a clear gap between the allocation of funds by the government, expenditure, and achievement in school facilities and learning.

Fiscal Execution and Administrative Challenges

One of the major problems with universal primary education in India is related to the discrepancy between the intended macro-budget allocation for the sector and the actual allocation through State finance mechanisms. While the national-level policy framework stipulates that 6% of the gross domestic product must be spent on education, the actual outcome is far from the target, and elementary education receives an insignificant share of the national income. The macro-budget gap is further aggravated by implementation problems associated with the state and central administration mechanism. Funds allocated do not flow into classrooms because of delay in the allocation of money from state treasuries to district administrations. Thus, the absorptive capacity of states with poor education is restricted. Fiscal implementation emerges from the literature as an issue in the education sector of India. The



issue that frequently emerges in the literature is that of a discrepancy between the amount that budgets allocate and the expenditures that occur via the state's financial and administrative institutions. There may be delays in fund transfer from the state's treasury to districts and implementation institutions; lack of coordination across different departments; and limited absorptive capability such that sanctioned funds do not reach schools on time. Such problems become especially relevant where administrative capacity is low. An additional allocation of funds, in this context, will not automatically result in an improvement in school infrastructure and classroom delivery. The literature, thus, recognizes a separate stage in the education finance chain process that of fiscal execution. Allocation creates financial capacity while execution determines its effective utilization. There are delays in payment of funds, poor coordination among the administrative departments, and insufficient absorptive capacity in educationally lagging states that hinder the process of utilization of public finance effectively. As a result, despite the increase in budgetary provisions planned, they fail to bridge the gap in infrastructure or classroom facilities.

Infrastructure, Teacher Vacancies, and Learning Outcomes

Public spending on the primary education segment continues to be highly tilted towards the increase in physical capital, thereby leaving out the essential pedagogy-related requirements in the classroom setting. Public expenditure both at the central and state level gets used by centrally sponsored programs, which are mostly inclined towards the construction of school buildings, civil amenities, and welfare. Although these objectives have succeeded in ensuring the growth in physical accessibility and enrollment rates throughout India, the operational issues get neglected. This is because of the existence of chronic teacher shortage problems in states, especially in the densely populated states located in the north and east of the country. The reviewed studies indicate that the allocation of education expenditures is significant. Traditionally, public expenditure has been directed towards physical infrastructure, school buildings, civil infrastructure, and welfare programs. This kind of spending can facilitate increased access and enrolment, yet the absence of infrastructure alone cannot ensure improvement in education outcomes. The problems related to teacher shortage, absenteeism, lack of teaching materials, and poor interaction in classrooms can hinder learning from any capital investments. Hence, the literature review indicates the presence of a connection between spending and outcomes whereby the spending may help build physical infrastructure; however, its impact on literacy, numeracy, attendance and academic success is determined by investments in teachers and teaching process. This is especially important to the current



research because it means that the analysis of the budget-expenditure gap should also consider indicators of infrastructure and teacher performance. Chronic teacher vacancies lead to poor levels of literacy and numeracy among students, and thus students shift from government-run schools to cheaper private schools. The research indicates that expenditures have primarily been concentrated on infrastructure as opposed to quality. Teacher absenteeism, which is high in rural areas and poorer states, as well as poor teaching tools and lack of engagement in the classroom, has had negative impacts on literacy and numeracy. Welfare programmes have increased enrollment, but according to the literature, there have been few gains in attendance and learning without effective teacher recruitment and classroom-level activities.

Digital Governance and Post-Pandemic Reform

The government is enhancing the education budget but still cannot satisfy the ground-level needs. The paragraph suggests that budget allocation alone does not serve the purpose, and we need an additional measure to make the whole process more efficient and transparent. Ravselj et al. (2022), based on Public Administration Theory, talks about the need for new digital tools such as tracking systems and online portals. Here, the authors describe the limitations of how people get confused about the concept of Digital Government (only digitizing government operations) and Digital Governance, which leads to fragmentation of public services and inefficiency in their delivery. Digital Governance makes the administration more efficient by changing the relationship between the government and the public. Together, these papers indicate the importance of how the money should reach the required level and become transparent by introducing digital governance frameworks. There have been increasing concerns regarding the role of digital governance in enhancing transparency and accountability in the funding process. The use of digital tracking, online administrative systems, as well as investment in digital learning and teacher training post-pandemic period, are regarded as key initiatives aimed at enhancing fund utilization and accountability. It is, however, stressed that technology reforms must go together with effective fiscal governance. Most recent trends in the budget of public education system show a continued recovery of budget

From the declines during the pandemic period, adoption of digital platforms and skill-based learning. The budgetary allocations described in the reviewed literature pertain to the education budget for the Union Government, which went down from ₹99,312 crore to ₹93,224 crore in 2021-22, and further increased to ₹104,584 crore in 2022-23, exceeding ₹1 trillion. When taken collectively, the studies provide different pieces of the puzzle in that expenditure-



related literature recognizes the allocation and utilization issue, governance literature describes the means to monitor the issue, while school-based literature justifies the significance of its proper implementation. This increase included the allocation of resources towards digital learning and training of teachers digitally, which went beyond conventional schools.

The key takeaway point from these three different papers on the themes discussed is through the concept of 'Pipeline' as it suggests that success in education can be attained only through the formation of a continuous chain in which the following three components play a significant role: Macro level funding, Digital governance (systemic tracking), Front line delivery (teaching at the classroom level). In case any one of these components is missing in the chain, then the whole chain fails. All researchers in all three papers have reached the conclusion that although there has been an increase in the amount of money spent by the government but still the target of allocating 6% of GDP to education has not been fulfilled. The reason behind this is the gap between budgetary funding and teaching at classroom level. From all the studies reviewed, one recurring theme is that increased financial allocations to education are not enough. Good educational results rely on the continuity of a chain starting from the right financial allocations to good financial management, good governance, and finally to proper classroom application.

Research Gap and Future Policy Directions

The extant literature studies aspects such as education budgets, expenditures, infrastructure, teacher shortages and governance, but there is no analysis of the factors mentioned above combined. One of the limitations that should be addressed is that there is a shortage of empirical evidence about the association between disparities in budget allocations and expenditures and chosen school-sector indicators such as school infrastructure, teacher availability, and pupil-teacher ratio. The effectiveness of digital governance and real-time expenditure tracking at the school level is not sufficiently explored. Moreover, there is no adequate comparison of expenditures' efficiency for States with different levels of fiscal and administrative capacity and different socio-economic conditions. The present research seeks to bridge this gap by investigating the association between the budget-expenditures discrepancy and selected school-sector variables in the States and Union Territories.



2. Methodology:

The research philosophy guiding this study is positivism. The positivist paradigm asserts that knowledge is derived from observable, empirical, and objective phenomena. Given the central question “The Gap Between Allocation and Expenditure in the Indian Education System”, the main discussion of this paper, this study follows a deductive approach. The literature review outlines clear theoretical directions. In this research paper, the methodology, which is explanatory quantitative, is designed to investigate the systematic mismatch between the government budget allocation for education and the actual education expenditure in the Indian education system.

The geographic scope of the study is the Indian continent and its several regions. The targeted population for this research is all the government and government-aided primary and elementary schools across all states and union territories in India. Private and unaided schools fall under the exclusion criteria as they fall outside the scope of public budget expenditure. This study mainly relies on secondary, state-level administrative data. For a comparative analysis of "different administrative capabilities and socio-economic backgrounds", we have included all 28 States and 8 Indian territories. As secondary administrative data sources, the PRS India budget reports, the Public Financial Management System (PFMS), UDISE+, and the National Achievement Survey are also taken. Another important secondary data sources for this research paper are the Union and State Budget Documents, PRS India Budget Analysis, National Education Policy, and the government and state policy papers. The research focuses on the budget-expenditure gap rate as the major explanatory variable and evaluates its association with three observed school-sector indicators, namely school infrastructure, teacher vacancies, and pupil-teacher ratio. Panel Data Fixed Effects estimate is utilized in this research work to analyze these associations and to manage state-level heterogeneities, (regional administrative disparities). In this methodology, alongside the comparative analysis, both qualitative and quantitative analyses are used. In the research study, diagnostic attention was given to multicollinearity, heteroskedasticity, autocorrelation, and possible endogeneity. Yet, since the panel is only three years long and no identification strategy has been reported, the results are seen as associations and not as causal effects. The research study has realistic limitations includes the lack of standardized quantitative index for digital governance, the time



lags between infrastructure development and literacy level improvement. In this research , statistical software such as R and Stata will be used for data analysis ensuring high replicability. This research framework is designed to generate the expected insight about the vital outputs which specifically focuses on budget-expenditure gap's impact in the Indian education system.

3. Data Analysis

The empirical study explores the relationship between the budget-expended gap and certain selected measures of the school sector's performance. In particular, the primary independent variable used in this analysis is the budget expenditure gap ratio, whereas the dependent variables include infrastructure, teacher vacancies, and pupil-teacher ratio. The study starts with descriptive statistics and continues with yearly comparisons, correlations, ordinary least squares regressions, and ultimately a two-way fixed effects panel regression.

4.DATA, VARIABLES AND ANALYTICAL FRAMEWORK:

4.1 Data Source and Coverage:

The data, which are used for the analysis, is that of secondary state level administrative panel data. There are 108 state-year observations of 36 States/Union Territories for three financial years. The panel includes three financial years only, which gives it a shorter time dimension. While the dataset comprises 36 States/Union Territories, the time span in hand restricts its ability to track developments across States over a longer period of time. Hence, the econometric findings should be treated with care since these are treated as evidence of association rather than causal effects. The main variables considered for the study are educational allocation, educational expenditures, budget shortfall, budget shortfall percentage, infrastructure variable, and vacancy percentage of teachers and Pupil-Teacher Ratio.

4.2 Data Audit:

Item	Result
Observations	108
States/UTs	36
Years	3 (2021, 2022, 2023)



Unique State-year keys	108
Duplicate State-year observations	0
Teacher vacancy observations	107
Attendance observations	0
Learning-score observations	0
State GDP/control observations	0
Infrastructure proxy	Functional electricity (%) scaled to 0-1

Table 2.2 (i): Data Audit Information

4.3 Data Sources:

The data, used for this data analysis, gathered from the Ministry of Education/PRABANDH-PFMS sources for FY2021-22 and PRABANDH state-wise data for FY2022-23 and FY2023-24. Infrastructure and pupil-teacher ratio are drawn from UDISE+-related data, while teacher vacancy is drawn from UDISE+/Ministry of Education teacher-post information

4.3 Variables Used in the Analysis:

Variable	Role	Definition	Unit	Expected Direction
Allocation Education	Fiscal variable	Reported education allocation in the gathered data	Dataset monetary units	—
Actual Expenditure Education	Fiscal variable	Reported expenditure/release measure from the data set is used as the fiscal execution measure and does not assume that it	Dataset monetary units	—



		is equal to the budget allocation.		
Budget Gap	Derived fiscal variable	Allocation minus actual expenditure	Dataset monetary units	—
Budget Gap Rate (%)	Main explanatory variable	Budget-expenditure gap relative to allocation	Percent	Negative/positive association tested
Infrastructure Index	Dependent variable	Electricity-based infrastructure proxy	0–1 index	Negative relationship expected
Teacher Vacancy (%)	Dependent variable	Percentage of teacher vacancies	Percent	Positive relationship expected
Pupil-Teacher Ratio	Dependent variable	Number of pupils per teacher	Ratio	Positive/negative relationship tested

Table 4.3 (i): Data of Variables Used in the Analysis

4.4 Descriptive Statistics:

Variable	Mean	SD	Min	Max	N
Allocation (source units)	65,708.33	112,960.47	5.73	602,908.74	108
Actual expenditure/release (source units)	45,775.93	106,442.14	2.16	665,950.99	108
Budget gap rate (%)	34.15	45.25	-90.06	99.73	108
Utilization rate (%)	65.85	45.25	0.27	190.06	108
Infrastructure proxy (0-1)	0.877	0.162	0.247	1.000	108



Teacher vacancy (%)	13.01	12.94	0.00	71.75	107
Pupil-teacher ratio	18.12	7.40	5.75	48.75	108

Table 4.4 (i): Data of Descriptive Statistics

Table presented above summarizes key fiscal and educational variables used in this study. The fiscal levels exhibit very large dispersion, while the gap rate and utilization rate show substantial heterogeneity in execution across State/UT-year observations. The infrastructure variable demonstrates high average value, while the teacher vacancy shows rather wide spread and the pupil-teacher ratio demonstrates significant variability.

year	Mean allocation	Mean expenditure	Mean gap	Mean gap rate	Mean infrastructure	Mean teacher vacancy	Mean pupil-teacher ratio
2021	963.1033	690.9211	272.182	29.959	0.863	14.25	19.46
2022	98047.6697	121037.5508	-22989.8	-9.547	0.881	13.09	18.12
2023	98114.2319	15599.3125	82514.9194	82.030	0.886	11.63	16.76

Table 4.4 (ii) Yearly Data of Descriptive Statistics

The mean budget gap rate equals to 34.15 percent. Nevertheless, the standard deviation is considerably higher compared to many of the outcome variables demonstrating considerable dispersion of fund execution. The presence of negative gap rates indicates that, for some State/UT-year observations, the reported expenditure/release measure is higher than the reported allocation. This should not necessarily be interpreted as expenditure exceeding the legally authorized budget provision, since the dataset uses a reported expenditure/release measure. Therefore, negative gap rates are interpreted as instances in which the reported expenditure/release measure exceeds the reported allocation in the available data.



4.5 Year-wise Fiscal and Outcome:

The following table shows the yearly averages of percentage-based fiscal indicators and three observed variables. Analysis and Interpretation. Average gap ratio increases from 29.96 percent in 2021 to -9.55 percent in 2022 and up to 82.03 percent in 2023. On the other hand, the change in percentage-based values is rather modest: Infrastructure proxy increases from 0.863 to 0.886, teacher vacancies decrease from 14.25 percent to 11.64 percent, and pupil-teacher ratio decreases from 19.47 to 16.76 in three periods.

4.6 State-wise Outcome:

State Name	Mean Gap	Mean Gap Rate	Mean Utilization
Dadra and Nagar Haveli and Daman and Diu	3434.86	67.9314977	32.0685
Lakshadweep	222.0767	60.9005206	39.09948
Uttarakhand	21013.1467	60.531843	39.46816
Andaman and Nicobar Islands	2505.9633	59.9216885	40.07831
Ladakh	4779.4333	57.1263399	42.87366
Manipur	10073.6933	52.1218558	47.87814
Mizoram	8941.5467	50.040739	49.95926
Delhi	8492.07	48.1233127	51.87669
Himachal Pradesh	12961.0933	46.2018917	53.79811
Uttar Pradesh	147459.2467	44.0792514	55.92075
Arunachal Pradesh	14979.1567	43.9006021	56.0994
Maharashtra	35401.24	42.5309713	57.46903
Sikkim	2849	42.2994596	57.70054
Nagaland	5717.52	41.6512271	58.34877



Tripura	8577.4733	41.3267109	58.67329
Goa	383.57	38.8091055	61.19089
Jammu and Kashmir	29316.56	38.6101682	61.38983
Chandigarh	4742.36	36.6755626	63.32444
Chhattisgarh	12186.4433	36.5447063	63.45529
Andhra Pradesh	21125.5967	33.9970006	66.003
Madhya Pradesh	76864.2567	33.4760118	66.52399
Assam	50830.3367	33.2111025	66.7889
Tamil Nadu	44054.76	29.4173746	70.58263
Karnataka	12780.9067	28.6282988	71.3717
Meghalaya	8583.6933	28.1533789	71.84662
Haryana	7563.89	25.3280275	74.67197
Telangana	11516.1767	25.0507501	74.94925
Gujarat	19115.04	21.4619152	78.53808
Bihar	80150.8767	21.4161904	78.58381
Rajasthan	43163.6833	18.4745179	81.52548
Puducherry	120.4067	11.8252003	88.1748
West Bengal	11563.7867	10.0177242	89.98228
Odisha	-1153.9233	2.5129043	97.4871
Punjab	-938.87	0.7667729	99.23323
Jharkhand	201.1433	0.5593332	99.44067
Kerala	-2011.5667	-4.3086993	104.3087

Table 4.6 (i): Data of State-wise Outcome

The data on the average gap, gap rate, and utilization rate of each State/UT during the time span under analysis is provided in this table. It can be seen from the analysis above that there

were differences in the level of fiscal execution among jurisdictions. Dadra and Nagar Haveli and Daman and Diu had the highest gap rate (67.93%), followed by Lakshadweep (60.90%) and Uttarakhand (60.53%). At the same time, Jharkhand, Punjab, and Odisha had small gaps of 0.56%, 0.77%, and 2.51% correspondingly. There are negative average gaps in Odisha, Punjab, and Kerala, indicating that the reported expenditure/release measure was higher than the reported allocation in the available data. These negative values should therefore be interpreted as differences between the two reported fiscal measures rather than as evidence of expenditure beyond the approved budget.

4.7 Budget allocation over time

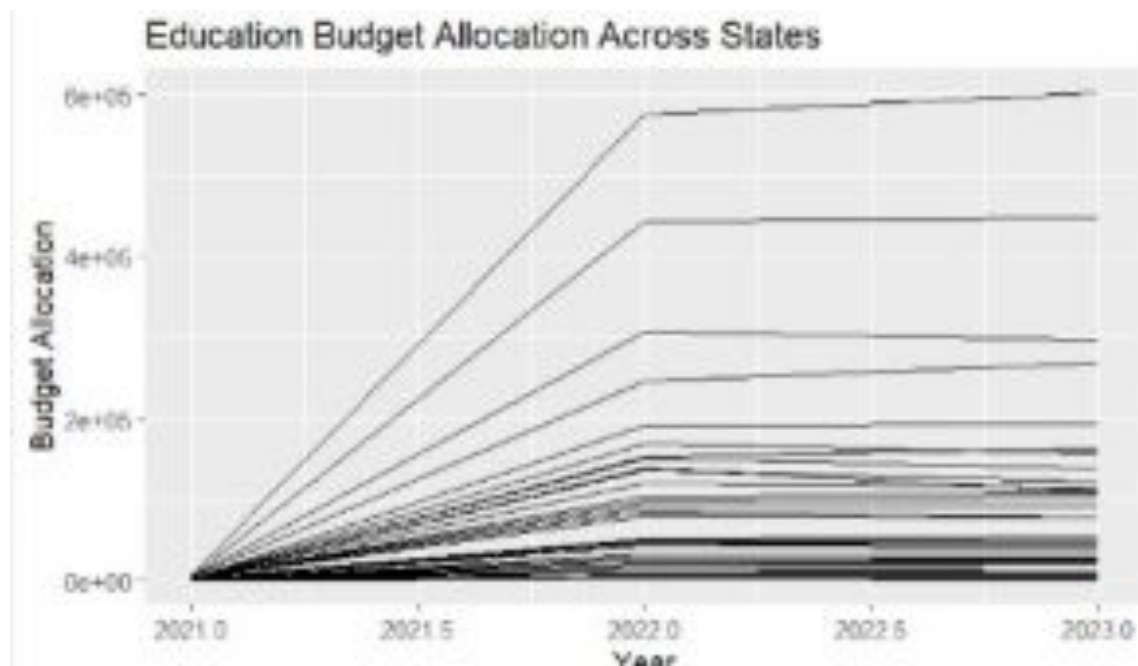


Fig 4.7 (i): Graph of Budget allocation over time

This is a graph shows the pattern of education budget allocation among the States and UTs throughout the study period. There are great variations in the magnitude of education budgeting among various States and UTs. In this figure, one can see a noticeable rise in budget allocation between 2021 and 2022. Post 2022, however, there are relatively no variations in allocations up to 2023. One can see that there is considerable variation among the lines in the figure, and this is due to the variation in the magnitude of education budgeting among the States. While there is variation in the budgeting among the States, this is not about how efficient the funds are being used.

4.8 Education expenditure over time

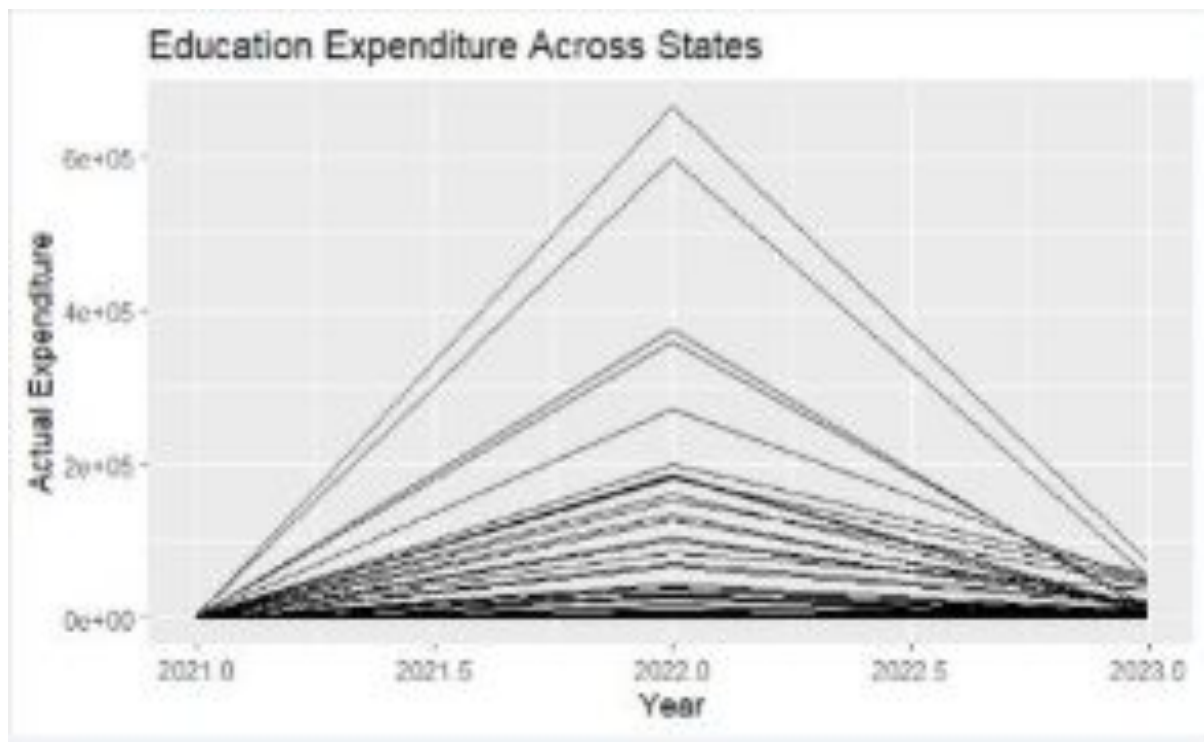


Fig 4.8 (i): Graph Education expenditure over time

From the above graph, there has been an increase in the reported expenditure/release measure in most of the States/UTs in 2022, followed by a decline in 2023. The huge disparity between the States indicates that there have been significant variations in the reported expenditure/release measure across States. The expenditure/release measure should be interpreted separately from budget allocation because the two measures are not equivalent. Nevertheless, caution needs to be taken when interpreting the 2023 figure due to the lack of comparability between the time periods.

4.9 Budget expenditure gap

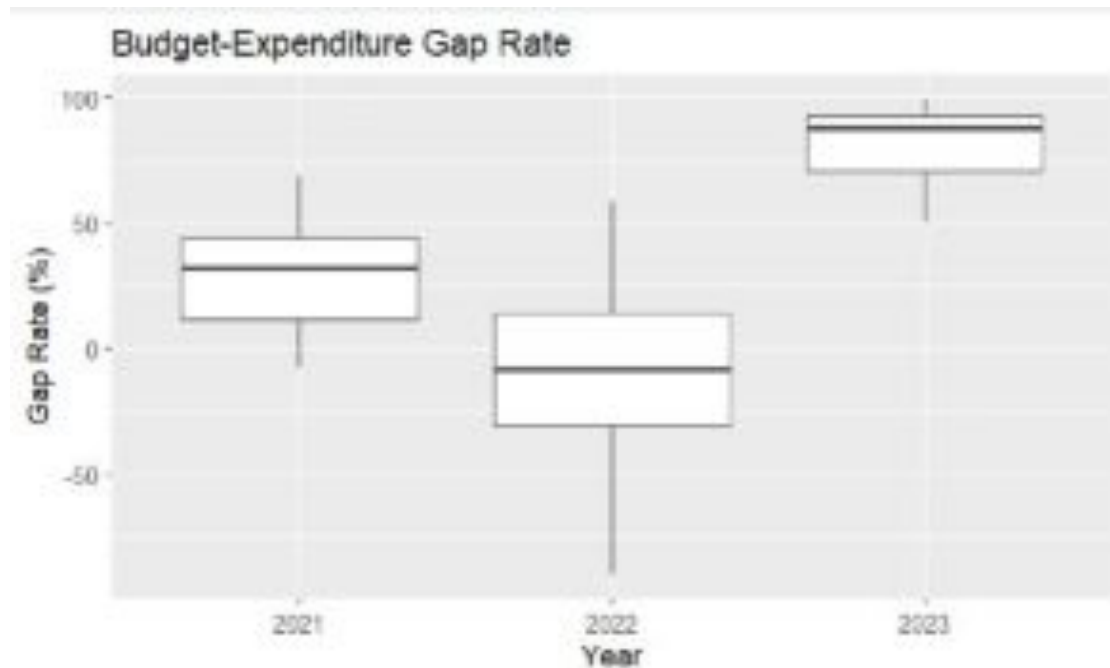


Fig 4.9 (i): Graph of Budget expenditure gap

This figure shows considerable variation in the budget-expenditure gap rate across States and over time. In 2021, the median gap rate is positive, roughly 33%. This means that there is some variance between what is allocated and what has been spent/released. In 2022, the median is negative and there is greater variability in the budget-expenditure gap. In 2023, the median is very high, around 90%, and almost all the States/UTs have high positive gaps. The significant shift in the gap rate in 2023 can be seen with care as there is a lack of comparable data between the reported 2023 and previous periods due to the unavailability of the panel for other than three years. The presence of the 2023 year in the regression is based on the available data, but not time consistency.

4.10 Gap and infrastructure

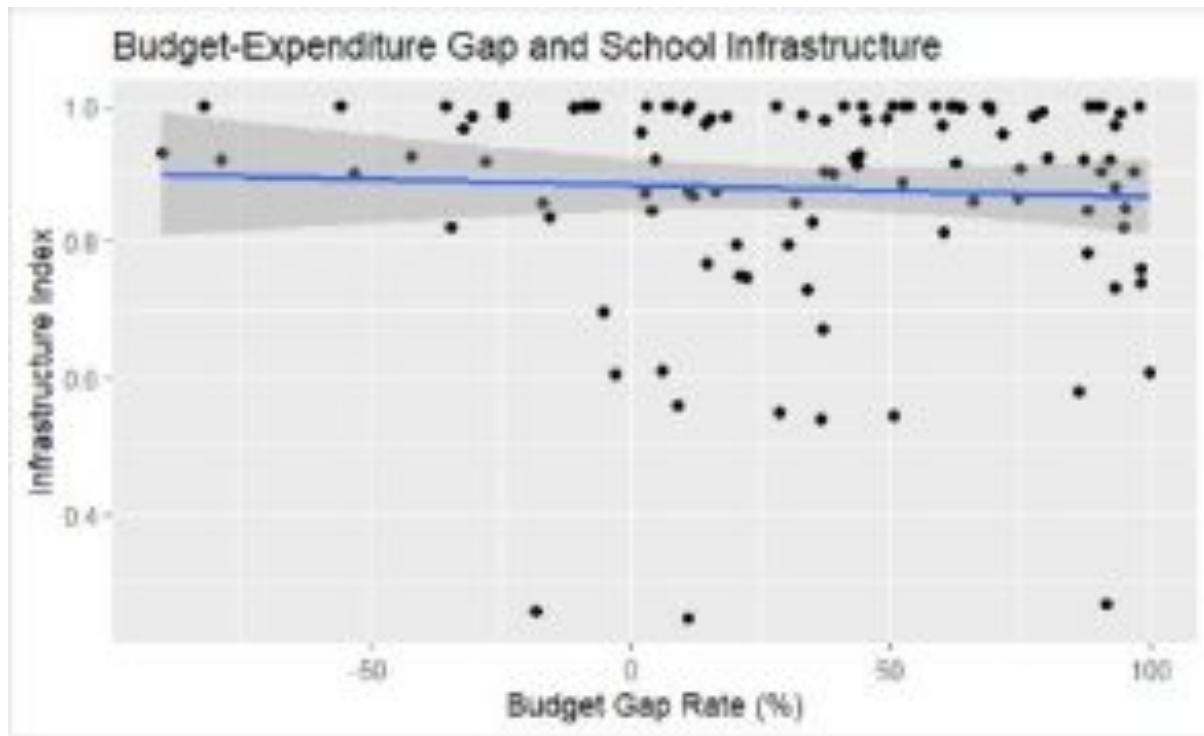


Fig 4.10(i): Graph of Gap and infrastructure

This is the scatter plot between the infrastructure proxy and the budget gap rate. The slope coefficient in the fitted line shows a weak negative relationship but is highly insignificant. This indicates that the variance among the observations is too great to attribute the cross-state variation in the infrastructure proxy to the fiscal gap alone.

4.11 Gap and teacher vacancy

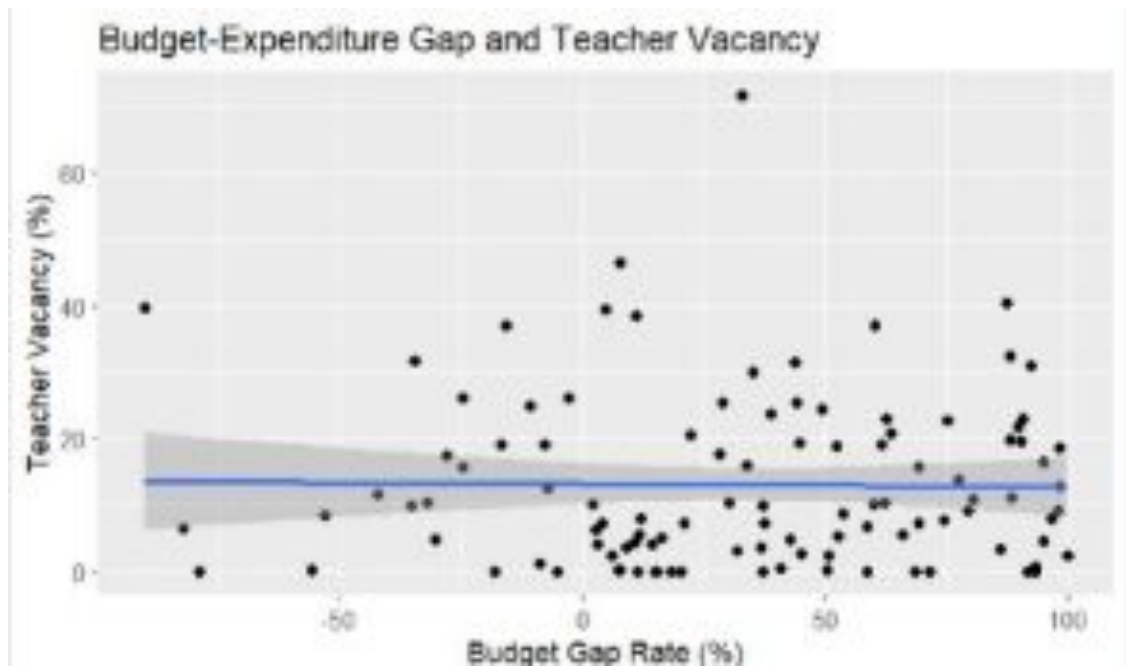


Fig 4.11 (i): Graph of Gap and teacher vacancy

Scatter plot shows the association between budget-gap rate and teacher vacancy.

Visually, the relation is not strong; the observations are spread out over a wide span of teacher vacancy rates. This suggests that staffing outcomes are associated with factors beyond the observed budget gap.

4.12 Gap and pupil-teacher ratio

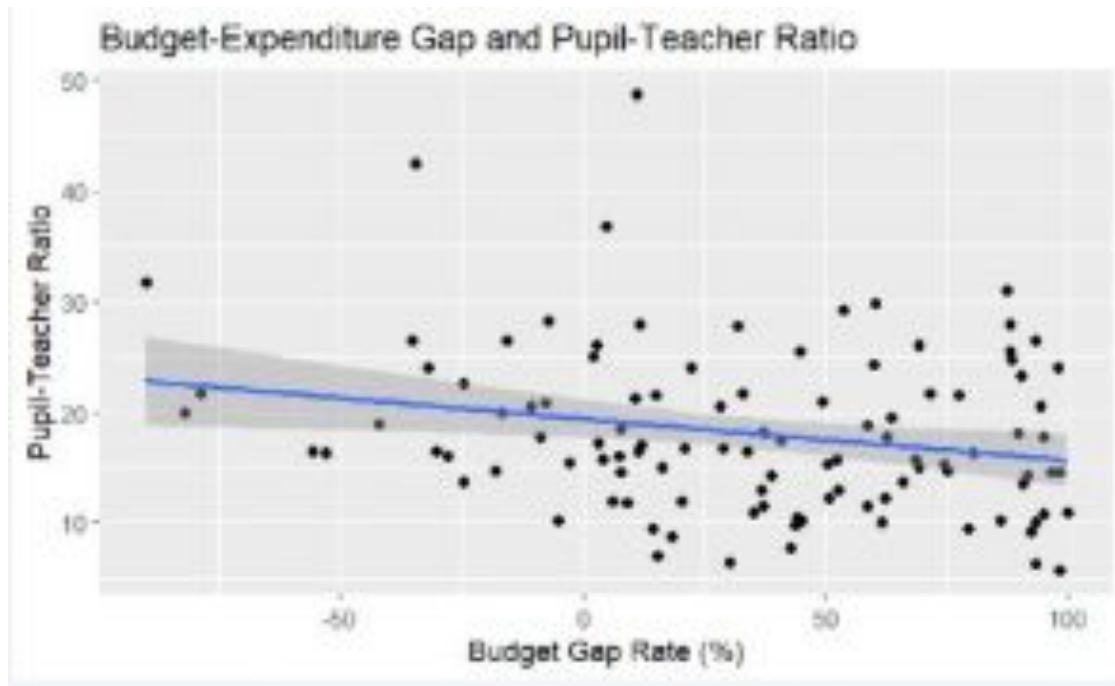


Fig 4.12 (i): Graph of Gap and pupil-teacher ratio

Scatter plot depicts the relationship between the budget gap ratio and teacher-student ratio.

There is a negative and statistically significant relationship between budget expenditure gap rate and pupil teacher ratio based on the pooled regression analysis. However, the relation becomes statistically insignificant after accounting for the fixed effects of State and year.. This indicates that part of the pooled association can be attributed to the differences between States and commonalities within the same year.



Correlation analysis.

	Budget gap rate pct	Infrastructure index	Teacher vacancy pct
Budget gap rate pct	1	-0.0571977	-0.0147469
Infrastructure index	-0.0571977	1	0.1540058
Teacher vacancy pct	-0.0147469	0.1540058	1
Pupil teacher ratio	-0.2365589	0.1907746	0.3949853

Table 4.12 (i): Data of Correlation analysis.

This table presents the correlation between the main fiscal and educational variables. Almost all of the correlations are low. The highest correlation is between the teacher vacancy and the pupil-teacher ratio ($r = 0.395$), while the other is the weakly negative correlation between the budget-expenditure gap rate and the pupil-teacher ratio ($r = -0.237$). The negative correlation is in accordance with the direction of the OLS correlation.

5.Key Findings

In general, the results demonstrate considerable heterogeneity in budget execution among States and UTs. The budget-expenditure gap also exhibits considerable variability over time and between jurisdictions, whereas the variance in terms of infrastructure, teacher vacancy, and pupil-teacher ratio is relatively low. The pooled regression results show that there is a negative and significant relationship between the budget gap rate and pupil-teacher ratio; however, this relationship turns to be insignificant when the State-year fixed effects are taken into account. The relationship between the budget gap rate and the proxies for infrastructure and teacher vacancy in pooled regressions is relatively weak. In general, the results suggest that the budget gap rate alone is not sufficient to explain the variation in the selected school-sector indicators, and the observed relationships should be understood as associations rather than impacts.



Conclusion

This study took a look at the money the government set aside for education and how much was actually spent in different states and territories. What they found out was that the amount of money the government said they would spend and the amount they actually spent were not the same. On average, the government said they would spend 65,708.33. The actual amount spent was 45,775.93, which means they only used about 65.85% of the money. This shows that just because the government says they will spend money on education, it does not mean they will actually use it.

There were differences in how much money was spent versus how much was allocated in different states and territories. For example, Dadra and Nagar Haveli and Daman and Diu only used about 32.07% of the money they were given which's a big difference. On the other hand, Kerala recorded a reported expenditure/release measure corresponding to about 104.31% of the reported allocation. This indicates that the reported expenditure/release measure was higher than the reported allocation in the available data and should not necessarily be interpreted as expenditure beyond the approved budget.

At the time of the study, the analysis did not provide any conclusive proof of the existence of a relationship between the budget gap rate and the chosen indicators of school infrastructure, teacher vacancy, and pupil-teacher ratio. Even though there was a relationship found between the budget gap rate and pupil-teacher ratio in the pooled analysis, it was not statistically significant after controlling for State and year fixed effects. Other variables like administrative issues, staffing conditions, and education programs can also have a relationship with the school sector indicators.

The study says that increasing the education budget is important. It is only part of the solution. There is a difference between how much money is allocated for education and how much is actually used. If the money is not given out on time or not used correctly, the schools may not get better. The study also looked at what other researchers have said. They agree that managing money, governing, using funds on time, hiring teachers, and starting programs at schools are all important for the education budget.

This study has some limitations. It only looked at three years. Did not have all the information needed about things like attendance and test scores. The way they did the study also showed that they did not have a way to measure how well schools use digital tools and that it takes time to see the effects of building new schools on literacy. Future studies can look at years and include more information about how well schools are doing. They can also look at how to make



sure money is being used well at schools. Other researchers have said that future studies should look at how the money is being spent and how it affects things like attendance, buildings, and test scores for the education budget.

Overall, the study shows that we should not just look at how much money is allocated for education but also at whether the money is being used well. The difference between the allocated budget and actual spending is one part of understanding how public money is being spent on education. It is not the only thing that affects how well schools do. The release of timely funds, their proper use, and effective management at the school level are also key aspects of enhancing educational performance in all states and union territories.



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