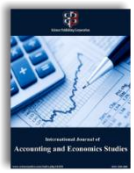
International Journal of Accounting and Economics Studies, 12 (6) (2025) 521-529

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/2axzn569
Research paper



The Education Cess Conundrum: Assessing Its Role in Shaping India's Education Expenditure

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Received: July 30, 2025, Accepted: September 13, 2025, Published: October 14, 2025

Abstract

Can a fiscal policy tool designed to augment education funding truly make a difference in a country where educational disparities persist, and the quest for quality education remains an elusive dream for many? This study delves into the education cess conundrum, examining the causal relationship between education cess collection and education expenditure in India. Employing linear regression analysis and validating the model using the Ramsey Test, our research reveals intriguing insights into the efficacy of this policy instrument. Our findings suggest a significant positive correlation between education cess revenue and government spending on education. This indicates that the education cess has been a valuable source of funding for educational initiatives as India continues to grapple with the challenges of educational development. However, the question remains: can education cess be a game changer in shaping the country's educational landscape , bridging the gaps and fostering inclusive growth, or will it remain a drop in the ocean, lost amidst bureaucratic inefficiencies, systemic flaws, and competing priorities. As policymakers and stakeholders seek to harness the potential of the Education cess, this study's findings attempt to explore futuristic insights given the evolving nature of India's fiscal policies. The implications of this research are far-reaching with potential applications in education policy, fiscal planning, and development strategy, making it a valuable contribution to the ongoing discourse on education and economic development in India.

Keywords: *Education Cess; Education Expenditure; Fiscal Policy; India's Education System.*

1. Introduction

The government of a nation is a catalyst in spurring its growth in a 360-degree dimension. To facilitate such a claim, it acts as a Regulator, Promoter, Entrepreneur, and Planner. Similarly, the government of India is the flag bearer of Economic growth and plays a vital role in showcasing the country's strength all over the globe.

The financial backbone of the Government of India (GoI) lies in its strategic allocation of resources, primarily drawn from the Consolidated Fund of India to critical sectors such as defense, healthcare, education, infrastructure, and social welfare. The Consolidated Fund of India (CFI) is established by Article 266 of the Indian Constitution. It is the government's main account and is used to fund routine expenditures and includes all revenues received by the government, including loans, repayments, and taxes.

To spend money on the country's welfare and growth, the revenue sources of the GOI need to be broken down. In this series, the GOI's Total revenue receipts are classified into two heads: Tax revenue and non-tax revenue. The sum of all receipts from taxes and all other duties under the government is referred to as tax revenue. It includes income tax, corporation tax, excise duty, and customs duty. The principal sources of non-tax revenue are interest receipts, net contribution of public sector undertakings, fiscal services, general services, social and community services, economic services, and external grants (D & Karunakaran, 2020).

Tax Revenue is the main source of regular receipts of the government and is categorized as Direct Taxes and Indirect Taxes. The income level, as well as the purchasing power of the people, are affected by direct taxes, and indirect taxes affect the income and property of an individual and a company through their consumption expenditure. Thus, centering around the Income outlook and considering the direct tax revenue and looking into the latest available stats, it is evident that income tax and corporate tax collection are the major sources of the government's revenue receipts.

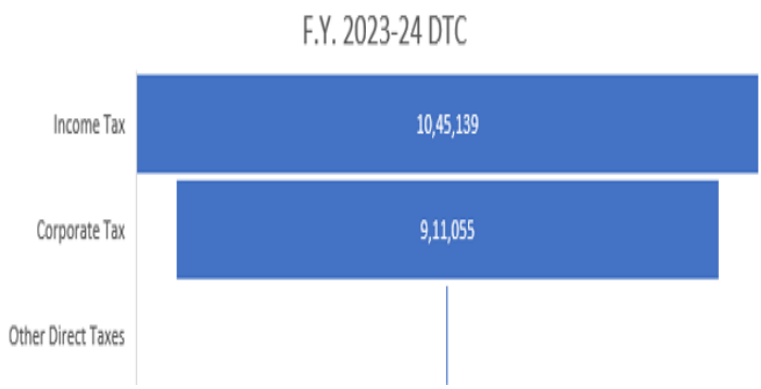


Fig. 1: Direct Tax Collection.

Source: CBDT, GOI.

Before proceeding further, the question of the disbursement of the tax collected needs to be addressed. The constitution of India provides for a federal structure of the Indian economy with a division of powers between the center and the state. Article 270 specifies that all the taxes and duties in the union list shall be distributed between the center and the state with certain exceptions, which are amended from time to time in the parliament. The Gross Tax Revenue collected by the Union Government has two components: divisible pool and non-divisible pool. Tax revenues of the center are to be shareable with states, demarcating the divisible pool out of the gross tax revenue of the center. Article 280 provides for the creation of the Finance Commission (FC) for the distribution of such tax proceeds. The FC, which is set up for a period of five years, recommends the distribution of tax proceeds of the divisible pool between the center and state governments and across states.

It is to be noted that the non-divisible pool consists of cesses and surcharges levied, raised, and retained by the center, not shareable with states. Further, Surcharge and cess are levied on tax payable on income, and not on the income generated. Surcharge is levied on individuals with taxable income exceeding a certain threshold, while the cess is applicable on the amount of tax and the applicable surcharge. Cess is to be made better known as it is proposed and levied to finance the Government's commitment to accomplish some specific purpose and is levied on all taxpayers, even if one falls in the lowest tax slab.

2. The Saga of Cess on Income in India

The constitution of India under Article 368 (1) grants constituent power to make formal amendments and empowers Parliament to amend the Constitution by way of addition, variation, or repeal of any provision according to the procedure laid down therein, which is different from the procedure for ordinary legislation. These amendments are made from time to time when felt inevitable.

The history of cess in India can be traced back to one such landmark constitutional amendment in 2002, the 86th amendment to the Constitution of India, which provided the Right to Education as a fundamental right in Part III of the Constitution. The same amendment inserted Article 21A, which made Right to Education a fundamental right for children between 6-14 years. With this, education outshone in all incumbent dimensions of India.

With other grounds, this amendment derived its need from the fact that India's achievements in elementary education have been far less impressive than other developing countries that were similarly situated 40 years ago(Alston & Bhuta, 2005). Studies and analyses investigating the reasons behind this poor performance indicate a combination of causes: inadequate financing of education, entrenched social division and discrimination based on caste, class, and gender, political apathy, and an institutional and management incentive structure that inhibits accountability, responsiveness, and quality teaching (Alston & Bhuta, 2005; Tilak, 1997)

The need for strengthening the resource base for education is obvious (Tilak, 1997) which requires immense financing and investment in the education sector. Considering the status quo, the Education cess was introduced by the Finance Bill 2004 to finance its commitment to universalize quality basic education. The Finance Bill 2004 further stipulated that the Central Government may, after due appropriation made by the Parliament shall utilize the imposed 2% of education cess only for the aforesaid stated objective. Subsequently, a non-lapsable Prarambhik Shiksha Kosh was created to ensure that the income from the cess did not get used for anything but elementary education. Sarva Shiksha Abhiyan continued with substantial increases in funding every year as the income from the cess grew with increasing wealth in India. Although there were many competing demands from other social sector schemes, the funds available for elementary education increased substantially. (Chavan, 2014)

The Government vide Finance Act 2007 introduced 1% secondary and higher secondary education cess in addition to the education cess introduced earlier. Breaking through this path, the Finance Act 2018 marked the discontinuance of 'education cess' and 'secondary and higher education cess' and introduced a new cess at the rate of 4%, by the name of 'Health and education cess'(presently levied).

In the present scenario, there is a knowledge war between the nations to gain economic and geopolitical power. The pursuit of becoming a world power is a complex and multifaceted ambition that necessitates a strategic approach. As mentioned above, the government of any nation acts in the capacity of a catalyst in spurring its sustainable growth. Among the various components of this aspiration, education and its financing play a pivotal role.

The use of earmarked taxes or levies for education is not unique to India. Several countries have experimented with instruments analogous to the education cess, offering valuable points of comparison. In Brazil, constitutional provisions mandate that subnational governments allocate 25% of their revenues to education, complemented by the federal Fund for the Maintenance and Development of Basic Education (FUNDEB). Studies show that earmarking in Brazil ensured predictable funding flows and significantly expanded per-pupil expenditure. Moreover, recent evaluations demonstrate that federal top-ups through FUNDEB have contributed to reducing inter-state inequalities in education financing (Peres, 2024). At the same time, scholars caution that this system reduces fiscal flexibility and may incentivize inefficient expenditure without adequate planning (World Bank, 2023).

A comparable initiative in Ghana is the Ghana Education Trust Fund (GETFund), created in 2000 and financed through a 2.5% value-added tax surcharge. GETFund has provided substantial resources for infrastructure, teacher training, and scholarships. However, recent policy reviews highlight persistent weaknesses, including delays in disbursements, arrears in fund transfers, and a disproportionate bias

towards higher education at the expense of basic education (Policy Note, 2024). These concerns echo India's challenges with under-utilization and opacity in cess transfers.

Other low- and middle-income contexts also illustrate the dynamics of earmarked financing. In Kenya and parts of East Africa, education levies are imposed at local and national levels; while they mobilize resources, evidence shows that weak governance often forces schools to rely on informal household contributions, diluting the intended equity benefits (KIPPRA, 2023). Similarly, in the Philippines, earmarked subsidies for private-sector enrolments through the Education Service Contracting scheme have widened access but raised new concerns over targeting and equity (DepEd, 2023).

Global reviews underscore the ambivalence of earmarking as a policy instrument. The Global Tax Justice and NORRAG report (2020) concludes that while earmarked taxes raise visibility and political salience for education, they can simultaneously undermine the flexibility of public budgets and weaken transparency if utilization is not clearly traceable. The World Bank's Education Finance Watch (2024) reinforces this point, noting that earmarked revenues have indeed grown as a component of domestic education finance worldwide but rarely guarantee improvements in learning outcomes without strong accountability mechanisms.

Taken together, these international experiences highlight three comparative insights for India. First, dedicated levies like Brazil's FUNDEB demonstrate that well-designed earmarks, especially those with redistributive components, can promote equity across regions. Second, Ghana's GETFund illustrates the risks of governance failures and imbalances in allocation, which resonate with India's challenges of cess utilization. Finally, global policy analyses caution that earmarking alone cannot substitute for systemic reforms; stable revenues must be matched by transparent governance and efficiency in expenditure to translate into educational outcomes.

Likewise, the Government of India recognizes the critical importance of education in driving socio-economic development, fostering innovation, and positioning the country as a global leader. As per the UNESCO Institute for Statistics report, India's expenditure on education as a percentage of GDP has also seen a gradual increase. In 2022, the expenditure on education was approximately 4.1% of GDP.

Education in India is structured into three main levels: primary, secondary, and higher education. Various schemes such as Sarva Siksha Abhiyan and, Mid-Day Meal scheme have been inculcated by the government to improve enrolment, retention, and learning outcomes at the elementary level. The visionary National Education Policy (NEP) 2020 comprehensively aims at transforming the education system to meet the needs of the 21st century.

India's Sustainable economic growth demands a well-educated workforce capable of driving innovation, entrepreneurship, and industrial development. Education financing at the primary, secondary, and higher education levels with respect to the purposive cess collection by the Union Government needs to be scrutinized, thereby contributing to sustained economic growth and stability.

Through this paper, the researcher aims to dig into the education cess collection and its role in government expenditure, as existing literature claims that nearly half of the union government expenditure on education is raised through education cess (Motkuri & Revathi, 2023). As a prelude, this paper aims to discuss education cess as a prospect in being used as a sustainable source of financing education.

3. Review of Literature

(Analytical Review of Direct Taxation in India, 2021) Income tax is levied on the taxable income of an assessee. Direct taxation is a tax that an assessee pays directly to the entity that imposes it. Direct taxes cannot be passed on by an assessee to a different person or entity. The assessee on whom the tax is levied is mainly responsible for paying it. Some of the major examples of direct tax include income tax and corporate tax. This research paper attempts to make an analytical review of Direct Taxation in India, and accordingly, three major research questions are raised. What is the quantum of direct tax collection? What is the contribution of direct tax collection towards the total tax revenue collection? And what is the cost of direct tax collection incurred by the government of India? This research is primarily based on secondary data, and the duration for this research is for a period of five years, starting from the year 2013-14 to 2017-18. An analytical review has been made to understand the quantum of direct tax collection, the relationship between direct tax collection with the total tax revenue collection, and the cost of direct tax collection in India.

(Tilak, 2006) states that there is nothing special in the union budget for the education sector, but for a noticeable increase in budgetary outlays for elementary education, possible because of the education cess. Adult as well as higher and technical education have not seen a significant increase in outlays; nor has any special scheme been proposed for any sector of education.

(Motkuri & Revathi, 2023) This article presents the analysis of trends and contributions in the education budget of the education cess levied by the Union government and discusses its implications for state governments. It is generally contested that vertical imbalance will continue as the union government is making use of certain constitutional provisions, such as levying cesses and surcharges, and mobilizing resources at its disposal, which do not have a constitutional mandatory/obligation to share with the states. Evidence presented in the article indicates such a trend in India. Education cess is one such instrument that the Union government is leveraging. While the union government expenditure on education is one-fourth of the total public expenditure on education (state–centered) in India, half of the union government's Ministry of Education expenditure is raised through education cess.

(Alston & Bhuta, 2005) Based on a case study of India, the authors consider the evidence of the qualitative impact that human rights discourse and the constitutional entrenchment of economic and social rights can have on the attainment of social goods such as education. The paper reviews the history of the amendment to the Indian Constitution in 2002, which elevated education to the status of a "fundamental right." The paper asks whether the inclusion of a justiciable right to education for children aged 6 to 14 made a concrete difference. The evidence is mixed. Public debate and public interest litigation have compelled the government authorities to address some critical problems. More importantly, rights discourse around education has become a focus for local political action and agitation among under-resourced and oppressed communities.

(Sonawane, 2018) This paper tries to investigate the level of public expenditure on education as well as its trends, growth, and intra-sectoral allocation to determine how much money is spent on what. We looked at the expenditure on education at various levels throughout the period 2001-02 to 2014-15, both in aggregate and separately for the federal government and each state government. It examines how education spending, both planned and unplanned, has changed over time. Findings from the analysis show that there has been a drop in state government spending on education and an increase in central government spending on education. There has been less than 5% of overall government spending on education, as measured by GDP. Finally, we've recommended that the government (at both the national and state levels) place a high value on education's quality while also expanding financial support for human resource development.

(D & Karunakaran, 2020) Public revenue is a major component of the budget, showing the way revenue is collected during a financial year by the government to boost economic growth. The success of government plans for the growth and development of a country depends on the source and size of public revenue. In India, Public revenue acts as the government's most important economic and fiscal policy tool in controlling money supply and maintaining the general price level. It is not only important for the corporates but for individuals from all

sections of society as they look forward to tax exemptions and reliefs. Even though India ranks third in purchasing power parity, only a few percentages of the population pay income tax. The government's effort to widen the tax base has resulted in an 80 percent jump in the number of IT returns filed. The analysis revealed that Public Revenue and macroeconomic indicators are significantly interlinked and correlated. Tax buoyancy is an indicator to measure efficiency in growth in GDP, and the Gross tax buoyancy coefficient remained fluctuating during the period 1990-91 to 2016-17.

(Singh, 2019) India has a federal tax structure. Center, states, and local bodies collect taxes as per the scheme laid down under the Constitution, more particularly under the seventh schedule. Article 265, however, puts restrictions on this power and states that "No tax shall be levied or collected except by the authority of law". Many countries have undertaken tax reforms in recent years, and some of them with significant success, which may act as a good benchmark for India. Such reforms are motivated by both local factors as well as the global economic scenario. While tax reforms in India have been carried out since the early fifties, the fiscal crisis of 1991 provided the first big opportunity for a serious rethink and action. Accordingly, a committee was set up under the chairmanship of Raja Chelliah to draw a roadmap for tax reforms and to put the economy on track. This committee suggested tax amendments of far-reaching consequences and initiated the process of liberalization.

As Bird (2014) pointed out, countries' taxes affect investment, allocation, and distribution of resources as well as the rate of economic growth, and therefore, the role of tax administration becomes quite important in developing countries. One particularly important aspect is benchmarking of the tax administration's performance vis-à-vis global best practices and aligning it with such practices (Bird, 2014). Studies carried out by OECD, IDB, and ADB about tax administrations of various countries may act as a comparative guide for developing countries like India to improve their tax administration. Trends analysis of tax collections, therefore, provides a good opportunity to evaluate the performance of tax systems in comparative terms. This paper presents a brief history of tax reforms in India. In the next section, trend analysis of tax collections in India, as well as the tax GDP ratio, has been analyzed, which shows relative stagnation or deceleration in tax revenue. How tax policy changes impacted the collection of taxes in India positively or otherwise is examined in the next section. An analysis of the costs of tax collection and the possible efficiency of the tax system has also been undertaken. Also, an international comparison of various tax administrations has been attempted to examine where the Indian tax administration stands vis-à-vis its global peers. Lastly, based on the best global practices, further reform direction is explored.

4. Research Gap

Education financing, education expenditure, and government expenditure on education have been a hot potato and have witnessed numerous studies in evidence of their existence (Sonawane, 2018; Qigege Wang, 2024). The present literature outlines the dynamics of education cess as a crucial part of the Income Tax system (Chavan, 2014). However, there is a dearth of studies encompassing education cess as the question of the hour, Its collection and utilisation has not garnered significant attention despite increasing trends in the direct tax revenue in India (Analytical Review of Direct Taxation in India, 2021) Taking this void into cognizance the researchers have attempted to highlight education cess as a prospect in being used as a sustainable source of financing education.

5. Need for The Study

The GOI, to harness the benefits of the nation's demographic dividend, spends a large part of its consolidated funds every financial year. In 2004 education cess was introduced to improve the quality and accessibility of education with special reference to elementary education (Chavan, 2014) and subsequently for secondary and higher education (Motkuri & Revathi, 2023). In this realm, the study finds utmost significance as to analyse the collection of education cess. Furthermore, the need for the study gets intensified, in the wake of the role of the education cess forming a part of the union government expenditure on education through varied developmental schemes.

The Objective of the study is to ascertain the role of education cess in the overall education expenditure of the Union Government through regression and to evaluate the adequacy and correctness of such an econometric model.

6. Research Methodology

The researcher has used a quantitative approach to analyze the proposed objectives. The research comprehends the data regarding Education Cess collection, Education expenditure of the GOI for the period 2006-07 to 2022-23. The data has been extracted from Union Budget documents, Finance Commission reports, and respective audit reports by the Comptroller and Auditor General. The relevant data's unit is Rupees in Crores, and the figures are log transformed for a better analysis.

Table 1: Variables Under Study

S. No.	Variables of the study	Source of data collection	Unit of Data
1.	Primary Education Cess	Union budget documents	Rupees in Crores
2.	Secondary and Higher Education Cess	Union budget documents	Rupees in Crores
3.	Education Expenditure of the GOI	Union budget documents, Standing committee reports	Rupees in Crores

Source: Author's own compilation.

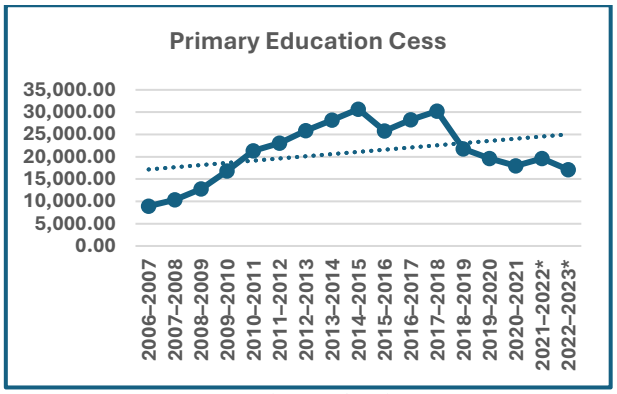
7. Analysis and Discussion

The researcher outlines the paper in three main domains, each described in brief below:

- The first section entails data in graphical format and further discusses the descriptive statistics.
- The next section depicts the causal relationship between education cess collection and education expenditure of the GOI using the Linear Regression model.
- The subsequent section further justifies the adequacy of the above model using the Ramsey RESET Test.

Education cess can be viewed as a sustainable source of financing the Union government's expenditure on education. It is vital to track down the collection of Primary Education Cess, Secondary and Higher Education Cess, and Health and Education Cess (levied from FY 2018-19).

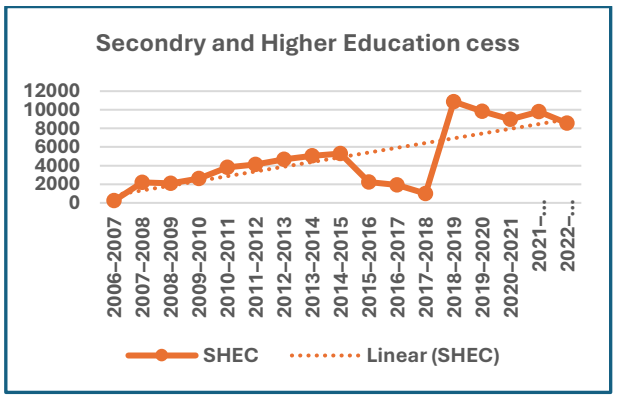
The graphical presentation of education costs over the years is given below.



Graph. 1: Primary Education Cess.

Source: Respective Union Budgets, GOI.

Graph 1 illustrates the trend in Primary Education Cess collections in India from 2006–07 to 2022–23. Collections increased steadily from around ₹10,000 crore in 2006–07, peaking above ₹30,000 crore in 2015–16 and 2017–18. However, post-2018, a sharp decline is observed, with collections dropping to nearly ₹18,000 crore in 2022–23. While the dotted trend line indicates a long-term upward trajectory, the recent years clearly reflect a contraction in cess mobilization, possibly due to policy changes in tax structures.

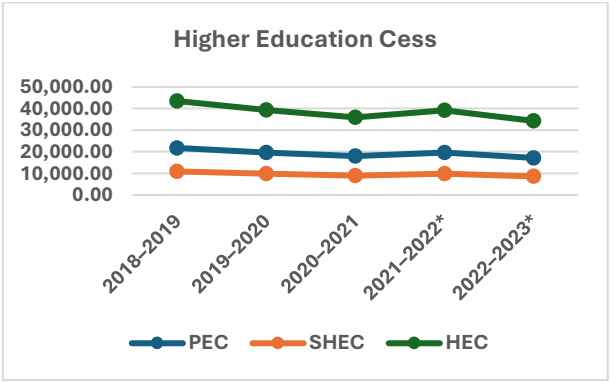


Graph 2: Secondary and Higher Education Cess.

Source: Respective Union Budgets, GOI.

Graph 2 shows the collection trends of the Secondary and Higher Education Cess (SHEC) in India from 2006–07 to 2022–23. Initially, collections rose gradually, reaching around ₹5,000 crore in 2013–14. However, a steep decline followed, with collections nearly collapsing between 2015–16 and 2017–18. A sharp resurgence occurred in 2018–19, when SHEC collections peaked at over ₹10,000 crore. Despite some fluctuations thereafter, the overall trend since 2018 has remained relatively high compared to the earlier period.

The linear trend line indicates a steady long-term growth trajectory, although the volatility suggests that structural tax policy changes, reclassification of cess components, or shifting allocations significantly influenced SHEC collections. The post-2018 surge aligns with broader reforms in indirect taxation and cess pooling, while the decline in the latest period (2022–23) signals possible stabilization at a lower level.



Graph 3: Higher Education Cess.

Source: Author's own compilation.

Graph 3 presents the trends in Primary Education Cess (PEC), Secondary and Higher Education Cess (SHEC), and Higher Education Cess (HEC) between 2018–19 and 2022–23.

The HEC collections dominate throughout the period, remaining consistently above ₹35,000 crore, though a gradual decline is visible from about ₹45,000 crore in 2018–19 to nearly ₹35,000 crore in 2022–23. This suggests a contraction in higher education cess revenues despite

its large base. In contrast, PEC collections are relatively stable, fluctuating between ₹18,000–21,000 crore, but show a downward trend over time. SHEC remains the smallest component, stabilizing around ₹9,000–11,000 crore with slight variations.
The graphical presentation of education cess collection over the stated time collection shows quite an increasing trend, which can be attributed to the expansion of the Tax Base resulting from persistent Economic Growth of the country, leading to more individuals and businesses falling under the tax net. Furthermore, the progressive nature of income tax and the simultaneous Increase in Tax Rates & Surcharge on High-Income Earners and corporations further boosted cess revenue.

Table 2: Descriptive Statistics

	CESS	SHEC	HEC	EDU_EXP
Mean	21092.03	4902.088	38428.42	65857.24
Median	21335.00	4123.500	39240.60	68925.80
Maximum	30678.50	10870.20	43480.60	104277.7
Minimum	8935.000	229.0000	34246.20	23873.50
Std. Dev.	6647.067	3438.914	3561.687	23626.72
Skewness	-0.254317	0.482166	0.252936	-0.386931
Kurtosis	2.112366	1.836191	1.939645	2.174246

Source: Author's own calculations.

The descriptive statistics show distinct patterns across the selected variables. The standard deviations reveal considerable variability, specifically in education expenditure and CESS, implying fluctuations over the observed period. Skewness values indicate that SHEC and HEC exhibit slight positive skewness, while CESS and EDU_EXP display mild negative skewness, suggesting a concentration of higher values. The kurtosis values for all variables are close to the normal distribution benchmark, indicating mesokurtic distributions without extreme outliers.
The above-mentioned descriptive statistics form the base for further inferential statistical analysis. First, the researcher has log-transformed the data to avoid the externalities in the data, if any, and has used the Linear Regression Model to attain the objective of the study. The objective presupposes the following regression equation:

$EduExp_t = f(Cess_t , SHEC_t)$

$LOGEduExp_t = \alpha_0 + \beta_1 LOG(Cess)_t + \beta_2 LOG(SHEC)_t + \mu_t$

Where,

α_0 = Constant or Intercept

β_1 _ β_2 = Parameter or coefficient of explanatory variable

μ_t = Error term

EduExp = Education Expenditure of GOI

SHEC = Secondary and Higher Education Cess

LOG= Logarithm.

The application of this regression model requires the dataset to be normally distributed, homoscedastic, and non-multicollinear.
Normality test: The present study applies the Jarque-Bera test to check the assumption of normality being met in the dataset. The hypothesis for assuring the assumption that the data is normal is given below:
H_{o1}: The data is normally distributed

Table 3: Normality Test Results

Jarque-Bera statistic value	1.1572
Probability	0.5606

Source: Author's calculations.

Table 3 signifies that the Jarque Bera test statistic is 1.1572 and the p-value is 0.5606. Thus, we fail to reject the null hypothesis. It proves that the data is normally distributed and can perform a regression model. Further, the regression model requires the data to be homoscedastic, for which the Homoscedasticity test has been performed.
Homoscedasticity Test refers to a statistical procedure used to check whether the variance of the error terms in a regression model is constant across all levels of the independent variables. If the variance is constant, the data is said to be homoscedastic, which is an important assumption for the validity of Ordinary Least Squares (OLS) regression (Gujarati & Porter, 2009). The hypothesis for the homoscedasticity test is as under:
H_{o2}: Data is homoscedastic.

Table 4: Homoscedasticity Test Results

Test	White Heteroskedasticity
F-statistic value	0.466160
P- value	0.6368

Source: Author's calculations.

The white test yielded a test statistic of 0.466160 and a p-value of 0.6368. The obtained p-value is more than the chosen significance level of alpha = 0.05. As a result, we fail to reject the null hypothesis, suggesting that the assumption of homoscedasticity holds.

As the data qualify the crucial assumptions of normality and homoscedasticity, it is fit for the application of the Regression model. The regression model is used to assess the impact of Education cess collection on the education expenditure of the government. The model uses the following hypothesis :

H_{03}: There is no significant impact of cess on the education expenditure of the union government.

The results for the regression model run using Eviews display the following:

Table 5: Regression Result

Dependent variable: Education Expenditure				
Model: $LOGEduExp_t = \alpha_0 + \beta_1 LOG(Cess)_t + \beta_2 LOG(SHEC)_t + \mu_t$				
Observations: 17				
R-Squared: 0.742206				
Adjusted R-squared: 0.705379				
F-statistic: 20.15349				
Prob(F-statistic): 0.000076				
Akaike Info Criterion: -1.542187				
Schwarz Criterion: -1.395149				
Durbin-Watson Statistic: 0.818878				
Variable	Coefficient	Standard Error	t-statistic	P-value
Intercept	1.242469	0.709397	1.751444	0.1017
CESS	0.636380	0.177538	3.584473	0.0030
SHEC	0.227217	0.065059	3.492453	0.0036

Source: Author's own calculations.

The regression output presents the estimation results for the dependent variable education expenditure using the Least Squares (OLS) method. The CESS coefficient suggests that a one-unit increase in CESS is associated with a 0.636 increase in EDU_EXP, holding other factors constant. The p-value (0.0030) is significant at the 1% level, meaning CESS has a strong and significant effect on EDU_EXP. SHEC Coefficient's one-unit increase in SHEC leads to a 0.227 increase in EDU_EXP, ceteris paribus. The p-value (0.0036) is significant at the 1% level, indicating SHEC significantly affects EDU_EXP. R-squared indicates that 74.22% of the variation in EDU_EXP is explained by the independent variables (CESS and SHEC). This suggests a strong explanatory power of the model. Adjusted R-squared = 0.705379: Adjusted for the number of predictors, still showing a high explanatory power (70.54%).

Overall, the very small p-value (0.000076) indicates that the model is highly significant, meaning at least one independent variable significantly explains EDU_EXP. Also, Standard Error of Regression (S.E. of regression) = 0.103372, which measures the average distance between observed and predicted values, indicates a better fit.

The above run regression rejects the null hypothesis that there is no significant impact of cess on education expenditure of the union government, which implies a robust relation between the stated variables. Undergoing the present research results, the researcher employed the Ramsey RESET test to evaluate the presence of specification errors in the model, if any.

The hypothesis for the Ramsey RESET test is as under:

H_{o4}: The model is correctly specified.

The test displayed the following output:

Table 6: Ramsey RESET Test Result

	Value	df	Probability	
t-statistic	0.610852	13	0.5518	
F-statistic	0.373141	(1, 13)	0.5518	
Likelihood ratio	0.481081	1	0.4879	
F-test summary:	Sum of Sq.	df	Mean Squares	
Test SSR	0.004174	1	0.004174	
Restricted SSR	0.149600	14	0.010686	
Unrestricted SSR	0.145426	13	0.011187	
LR Test summary:	Value			
Restricted LogL	16.10859			
Unrestricted LogL	16.34913			
Test Equation values				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.203631	8.154075	0.760801	0.4604
CESS	-2.300650	4.811514	-0.478155	0.6405
SHEC	-0.816509	1.709935	-0.477509	0.6409
FITTED^2	0.496082	0.812114	0.610852	0.5518
R-squared	0.749399	Mean dependent	var	4.784556
Adjusted R-squared	0.691568	S.D. dependent	var	0.190445
S.E. of regression	0.105767	Akaike info	criterion	-1.452839
Sum squared resid	0.145426	Schwarz	criterion	-1.256789
Log likelihood	16.34913	Hannan-Quinn	criter.	-1.433351
F-statistic	12.95845	Durbin-Watson	stat	0.883880
Prob(F-statistic)	0.000333			

The above test results show an F-statistic of 0.373141 with a p-value of 0.5518, and a likelihood ratio statistic of 0.481081 with a p-value of 0.4879.

Since both p-values are significantly higher than the conventional significance levels (0.01, 0.05, or 0.10), we fail to reject the null hypothesis that the model is correctly specified. This indicates that there is no strong evidence of omitted variables, incorrect functional form, or other specification errors in the current model when using only the square of the fitted values.

The inclusion of the squared fitted values term (FITTED^2) shows a statistically insignificant coefficient (p-value = 0.5518), reinforcing that the model does not suffer from significant specification issues.

The overall model still maintains a good fit, with an R-squared value of 0.749399 and an adjusted R-squared of 0.691568, indicating that approximately 69% of the variation in education expenditure is explained by the included independent variables (CESS and SHEC).
The results suggest that the current functional form is appropriate, and no significant specification errors exist in the model when considering quadratic terms.
After a comprehensive implication of descriptive, inferential, and econometric research tools, the paper is not only indicative of an increasing share of education cess in the government corpus but also establishes its profound role in financing education.

8. Future Trajectory of Education Cess

Building on the results, the study highlights critical implications for India's fiscal policy and education financing. In the short term, it is necessary for policymakers to strengthen the transparency and earmarking mechanisms of cess collections to ensure that funds raised are optimally channeled into education infrastructure, teacher training, and digital learning expansion. This becomes even more relevant in the post-2023 environment, where fiscal consolidation pressures coexist with rising demands for equitable access to quality education. Enhancing reporting frameworks and linking cess allocations with measurable outcomes in literacy, higher education enrolment, and employability would provide both accountability and efficiency. Furthermore, rationalizing multiple education-related cesses into a more integrated and streamlined levy could help avoid fragmentation of revenue streams and improve budgetary planning.
Looking forward, projections suggest that education cess collections will continue to expand in tandem with India's GDP growth and widening tax base. With sustained economic activity and improved compliance under the Goods and Services Tax (GST) regime, the cess corpus is expected to see a stable upward trajectory, potentially averaging an annual growth of 8–10% over the medium term. This would allow the government to gradually reduce dependence on external borrowings for financing education expenditure. However, volatility in indirect tax collections due to global uncertainties and inflationary trends may moderate the pace of growth, indicating the need for diversification of funding sources alongside cess-based revenues. In the long run, a greater alignment of cess utilization with the National Education Policy (NEP 2020) objectives, such as universal foundational literacy, vocational integration, and global research competitiveness, could transform the education cess into a more outcome-driven fiscal instrument rather than a mere revenue-raising mechanism.

9. Strengthening Cess Utilization: Policy Recommendations

Considering the findings, several practical recommendations can be advanced to strengthen the role of the education cess in India's fiscal and educational landscape. A key reform would be the creation of a dedicated fund for secondary and higher education, modeled on the Prarambhik Shiksha Kosh, which currently ensures transparency for elementary education expenditure. The absence of such a mechanism for higher levels results in opacity and fragmented allocations; establishing a parallel structure would help ring-fence revenues for targeted use. This approach resonates with international practices such as Ghana's GETFund and Brazil's FUNDEB, both of which demonstrate how earmarked levies can be institutionalized for more equitable education financing (Peres, 2024; Policy Note, 2024). Beyond structural reforms, a more purposive allocation of cess revenues toward priority challenges—such as improving school infrastructure, strengthening teacher training, and investing in digital education—would enhance public legitimacy and deliver tangible service improvements, aligning with evidence that earmarked funds gain credibility when linked to visible outcomes (World Bank, 2024; Global Tax Justice & NORRAG, 2020). At the same time, such reliance on cess must be weighed against broader fiscal trade-offs, given India's growing commitments in health, climate adaptation, and infrastructure. As the Brazilian case illustrates, excessive earmarking may undermine fiscal flexibility and encourage inefficiency if not carefully managed (World Bank, 2023). Future research should therefore move beyond correlations of revenue and expenditure to examine the causal impact of cess allocations on specific educational outcomes—such as literacy, enrollment, dropout rates, and learning quality—drawing methodological lessons from outcome-based studies of earmarked funds in Africa and Southeast Asia (KIPPRA, 2023; DepEd, 2023). Finally, these insights highlight the importance of situating cess-based financing within the broader framework of fiscal policy reform. Greater transparency in the Consolidated Fund of India and the integration of outcome-based budgeting principles could enhance the credibility and effectiveness of education cess allocations while offering a template for improving earmarked financing across other social sectors (World Bank, 2024).

10. Conclusion

The imposition of education cess under the Income Tax Act is a significant policy tool leveraged by the Union Government, and it is applicable across all tax brackets, ensuring a uniform contribution from taxpayers. This revenue is credited exclusively to the Consolidated Fund of India (CFI) and is non-divisible, reinforcing the central government's fiscal control over its utilization.
This paper undertakes a comprehensive examination of the role of the education cess in the Union Government's educational expenditures. Through a detailed analysis, it demonstrates the ascending share of education cess in the government's overall tax revenue, indicating a growing reliance on this source for educational funding. The analysis underscores a positive correlation between the escalation of education cess collections and the Union Government's expenditure on education, revealing a discernible upward trend.
To ensure the robustness of these findings, the accuracy of the regression model employed in the study was evaluated using the Ramsey Reset test. The results of this test affirmed the model's integrity, confirming that it neither omitted crucial variables nor deviated from the correct functional form. The analysis concluded that over 50% of the variance in the Union Government's educational expenditure could be attributed to the education cess, highlighting its substantial impact.
However, the allocation of education cess across various educational levels—primary, secondary, and higher education—raises concerns. While the Prarambhik Shiksha Kosh serves as a dedicated fund for the transfer and utilization of education cess for elementary education, no such mechanism exists for secondary and higher education. The Ministry of Human Resource Development does not maintain detailed utilization records for the Secondary and Higher Education Cess, as these funds are directly allocated through the budget. A few policy recommendations in line with the existing literature have been attempted in this study.
Such disparity prompts a call for deeper research to ensure that taxpayers' contributions are efficiently managed and directed towards their intended purposes. Future studies should focus on evaluating the transparency and accountability of education cess allocations and exploring their viability as a sustainable source of educational financing. This would involve assessing the long-term fiscal implications of relying on education cess and identifying potential improvements in its management and distribution.

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