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"THE DYNAMICS OF GOVERNMENT SPENDING: A STUDY OF ITS INFLUENCE ON NATIONAL INCOME AND EMPLOYMENT IN INDIA"

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Abstract: This study delves into the profound influence of government expenditure on the growth of employment and national income within the context of India. Employing Dynamic Panel Models and meticulously dissecting the data to shed light on this critical economic relationship through the Pooled Mean Group (PMG) estimator, validated through the rigorous Hausman test. The findings of the study unveil a pivotal revelation: an increase in government expenses significantly amplifies both national income and employment opportunities, surpassing the impact of a decrease in government spending and thereby underscoring the paramount role played by the government in fostering economic growth and bolstering employment prospects in the nation. While scrutinizing expenditure allocation, it becomes evident that the Defence services sector commands a relatively substantial share of the budget. However, analysis reveals a lack of causal linkage between this sector and income generation across various sectors. This observation implies that resources allocated to defense-related activities may not yield proportionate economic productivity. Furthermore, the study highlights a noteworthy concern regarding the Education sector. Despite substantial investments, this sector has failed to generate the expected income. This discrepancy underscores the pressing need for comprehensive measures to transform these expenditures into a catalyst for human capital formation, a fundamental prerequisite for sustained economic development. It is thus recommended to have a prudent and strategic utilization of government resources, accompanied by the implementation of robust policies and tools. Such measures hold the potential to achieve a more equitable distribution of income and

wealth, thereby contributing to the overarching goal of balanced economic growth in India.

Keywords: Economic growth, Fiscal Expansion, Government Spending and Unemployment

JEL Classification: H 50 E 62.

1. INTRODUCTION

Economic development, the pivotal process through which a country's per capita income and economic welfare steadily increase over time, stands as a paramount concern for all economies. This multifaceted phenomenon is influenced by a myriad of factors, with government expenditure emerging as a crucial driver. Governments allocate resources across various sectors with the dual objectives of fulfilling citizens' aspirations and fostering rapid social and economic progress. This encompasses the provision of public goods and services, as well as economic services vital for societal well-being. Examining the causal relationship between public expenditure and national income, we encounter two prominent theories: Wagner's law and Kuznets' law. Wagner's law posits that an increase in national income leads to a subsequent growth in public expenditure. Conversely, Kuznets' law contends that an expansion of government expenditure spurs national income growth. However, some studies propose that there may be no direct causal linkage between these variables. This paper embarks on a multifaceted journey, aiming to (a) quantify the pace of growth and structural shifts in India's Government Final Consumption Expenditure and Income, both at aggregated and disaggregated levels, and (b) identify the presence and nature of causal relationships between these macro-variables. This pursuit serves a dual purpose: (i) distinguishing the causal from the affected variable and (ii) discerning the exogeneity and endogeneity within government expenditure and national income dynamics. Ultimately, this knowledge can facilitate the development of a suitable macroeconomic simultaneous equations model, underscoring the interplay between government expenditure and income. In recent times, the assertion that government expenditure positively contributes to economic growth has gained widespread acceptance across economies (Prasetyo&Zuhdi, 2013 (1)). Concurrently, unemployment has emerged as a pressing challenge confronting developing nations, deeply entrenched within their socioeconomic fabric. High unemployment rates significantly impact the standard of living and can spawn various societal ills, from insecurity and insurgency to terrorism and social unrest. India, in particular, has witnessed a rise in unemployment over the years, even as national income has ascended. To combat this issue and stimulate employment generation, fiscal policy tools, such as government spending, have been vigorously deployed by developing countries.

This study delves into this intricate landscape, exploring the asymmetric impact of government spending behavior on the growth of national income and unemployment in India. Our objective is to precisely assess how positive and negative fluctuations in government spending affect national income and unemployment dynamics. This study endeavors to provide a robust framework that bridges existing empirical gaps, shedding light on the exact ramifications of government spending variations on national income and unemployment in the Indian context.

2. LITERATURE REVIEW

John Maynard Keynes, in his seminal work published in 1936, introduced a theory that has since had a profound impact on economic thought and policy. Keynesian economics posits that an increase in government spending triggers heightened aggregate demand and rapid growth in national income (Keynes, 1936) (2). This theory fundamentally supports government intervention to rectify market failures and vehemently challenges the classical economic perspective. Furthermore, Keynes emphasized that in the long run, "we are all dead," rejecting the idea that economies naturally revert to equilibrium. Instead, he envisioned economies as dynamic entities in constant flux, oscillating between contraction and expansion.

Keynes advocated for a countercyclical fiscal policy, where during periods of economic prosperity, the government should curtail spending, and during economic downturns, it should engage in deficit spending. This approach categorized government spending as an exogenous variable capable of stimulating economic growth, as opposed to an endogenous phenomenon. Central to Keynesian economics was the belief in the pivotal role of the government in preventing depressions by bolstering aggregate demand and rekindling economic activity through the multiplier effect.

In the Keynesian framework, a fiscal stimulus assumes that an injection of government spending triggers increased business activity and subsequent consumer spending. This theory posits that government expenditure elevates aggregate output and generates additional income. In contrast, the Wagnerian theory offers an alternative perspective, suggesting that an increase in national income prompts greater government spending (Bataineh, 2012(3); Ahmad & Loganathan, 2015(4)). According to the Wagnerian approach, the share of government spending grows in tandem with national income expansion (Kumar, Webber & Fargher, 2012(5)).

Numerous studies have delved into the intricate relationship between government expenditure and economic growth. Kimaro, Keong, and Sea (2017) (6), Dudzevičiūtė, Šimelytė, and Liučvaitienė (2017) (7), Bojanic (2013) (8), Kapunda and Topera (2013) (9), Taiwo and Abayomi (2011) (10), Wang (2011) (11), and Beraldo, Montolio, and Turati (2009) (12), Sinha{2017, 2022,2022,2022,2022, 2023,

2023 (13-19)} have collectively found that an increase in government expenditure positively influences economic growth. On the contrary, Carter, Craigwell, and Lowe (2013) (20), Chang, Huang, and Wei (2011) (21), and Nurudeen and Usman (2010) (22) have presented evidence indicating that elevated government spending has an adverse impact on economic growth.

One noteworthy study by Kimaro, Keong, and Sea (2017) (6) utilized panel analysis to explore the impact of government expenditure and efficiency on economic growth among low-income countries in Sub-Saharan Africa. Their findings demonstrated that increasing government expenditure accelerates economic growth in this region. Additionally, Holden and Sparrman (2016) (23) conducted a study assessing the effects of government purchases on unemployment in 20 OECD countries from 1980 to 2007. Their research revealed that an increase in government purchases was associated with a reduction in unemployment. In summary, the relationship between government expenditure and economic growth is complex and multifaceted. While some studies support the Keynesian notion that increased government spending spurs growth, others provide contrasting evidence. These varying conclusions highlight the need for nuanced policy decisions that consider specific economic contexts and conditions. Further research in this field is essential to gain a deeper understanding of the intricate dynamics between government expenditure and economic growth.

3. MODEL SPECIFICATION

In this study, we aim to analyze the impact of government spending on both the growth of national income and unemployment in India. To do so, we have developed a comprehensive model with multiple variables and equations. Below is a concise presentation of our model specification:

3.1. Keynesian Aggregate Demand Model

We begin with the Keynesian aggregate demand model, which serves as the foundation for our analysis:

$$Y=C+I+G+(X-M) \tag{1}$$

Where:

- Y represents Aggregate Income.
- C denotes Consumption Expenditure.
- I stands for Investment Expenditure.
- G represents Government Expenditure.
- X symbolizes Exports.
- M signifies Imports.

We assume that Aggregate Income (Y) corresponds to Gross Domestic Product (GDP), Consumption Expenditure (C) to Household Final Consumption Expenditure, Investment Expenditure (I) to Gross Fixed Capital Formation, and Government Expenditure (G) to General Government Final Consumption Expenditure. Additionally, we incorporate Foreign Direct Investment (FDI) inflows and the Exchange Rate (EXR) as explanatory variables for our national income model.

The model can be rewritten in functional form, considering the asymmetric effect of government spending on the growth of national income:

$$GDP=GSP+HCE+GFCF+TBAL+FDI+EXR \tag{2}$$

3.2. Functional Model of the Asymmetric Effect on Unemployment

Next, we introduce the functional model for the asymmetric effect of government spending on unemployment:

$$UEM=f(GSP) \tag{3}$$

3.3. Stochastic Transformation

To account for stochastic factors, we transform equations (2) and (3) as follows:

$$\ln(GDP) = \beta_0 + \beta_1 \ln(GSP) + \beta_2 \ln(HCE) + \beta_3 \ln(GFCF) + \beta_4 \ln(TBAL) + \beta_5 \ln(FDI) + \beta_6 \ln(EXR) + \epsilon \tag{4}$$

$$\ln(UEM) = \beta_0 + \beta_1 \ln(GSP) + \epsilon_2 \tag{5}$$

Where: ln denotes the natural logarithm.

3.4. Dynamic Linear Panel Model

To incorporate temporal dynamics, we employ a dynamic linear panel model in an autoregressive form:

$$Y_{it} = \rho Y_{i,t-1} + \lambda X_{it} + \mu_i + \beta_{it} \tag{6}$$

$$Y_{it} = \rho Y_{i,t-1} + \lambda X_{it} + \mu_i + \varepsilon_{it} \tag{7}$$

3.5. Model Application

Applying the linear dynamic panel model to equation (4) for assessing the asymmetric impact of government spending on national income in India, we have:

$$GDP_{it} = \rho GDP_{i,t-1} + \lambda GSP_{it} + \lambda HCE_{it} + \lambda GFCF_{it} + \lambda TBAL_{it} + \lambda FDI_{it} + \lambda EXR_{it} + \mu_i + \varepsilon_{it} \tag{8}$$

For equation (5) and assessing the asymmetric impact of government spending on unemployment in India, we have: $\ln(UEM_{it}) = \alpha_0 + \alpha_1 \ln(GSP_{it}) + \epsilon_{it}$ (9)

3.6. Error Correction Term

We further introduce an error correction term in our models as follows:

$$GDP_{it} - GDP_{i,t-1} = \gamma_0 (\ln(GSP_{it}) - \ln(GSP_{i,t-1})) + \delta_0 (\ln(HCE_{it}) - \ln(HCE_{i,t-1})) + \delta_1 (\ln(GFCF_{it}) - \ln(GFCF_{i,t-1})) + \delta_2 (\ln(TBAL_{it}) - \ln(TBAL_{i,t-1})) + \delta_3 (\ln(FDI_{it}) - \ln(FDI_{i,t-1})) + \delta_4 (\ln(EXR_{it}) - \ln(EXR_{i,t-1})) + \mu_i + \varepsilon_{it} \quad (10)$$

For the unemployment model, the error correction term is represented as:

$$\ln(UEM_{it}) - \ln(UEM_{i,t-1}) = \gamma_1 (\ln(GSP_{it}) - \ln(GSP_{i,t-1})) + \epsilon_{it}, \quad (11)$$

Where:

- γ_0 and γ_1 represent group-specific speed of adjustment coefficients.

4. DATABASE & METHODOLOGY

4.a. Data Sources

Our model is designed to examine the complex relationship between government spending, national income, and unemployment in India, incorporating both temporal dynamics and error correction terms. The analysis seeks to provide valuable insights into the economic dynamics of an open economy such as India. We sourced our data from various reputable sources, including the Government of India and the International Monetary Fund. Key variables include GDP at current prices, government expenditure, household consumption expenditure, gross fixed capital formation, trade balance, foreign direct investment, exchange rate, and unemployment rate.

4.b. Data Collection

The data for our analysis encompassed a time series spanning thirty years, from 1990-91 to 2019-20, focusing on Net Domestic Product (NDP) and Government Final Consumption Expenditure (GFCE). Our data included information on ten major sectors of Government Final Consumption Expenditure: General Public Services (GPS), Defence (DFS), Education (EDN), Health (HLT), Social Security and Welfare Services (SWS), Housing and Other Community Amenities (HCA), Cultural, Recreational, and Religious Services (CRS), Economic Services (ECS), Other Services (OTS), and Aggregated Government Final Consumption Expenditure (ACE). Additionally, we collected data on six major sectors of Net Domestic Income: Primary (PRM), Secondary (SEC), Tertiary-I (TR1), Tertiary-II (TR2), Aggregated Tertiary (TRT), and Aggregated Net Domestic Product (ADP). We compiled our data primarily from various issues of the National Accounts Statistics provided by the Central Statistical Office, Government of India.

4c. Methodology for Estimation

(i) Compound Growth Rate Calculation

- We estimated the compound growth rate in government final consumption expenditure for various periods using an exponential function: $G_t = a \cdot b^t \cdot e^{ut}$, where a and b are constants determined through the Ordinary Least Squares (OLS) technique applied to the linearized version of the function, and u_t represents the disturbance term at time t.
- The compound growth rate (r) was thenn computed as r(%) = (b–1)·100.

(ii) Structural Changes Analysis

- To understand the nature of structural changes, we computed the relative shares of government expenditure in different sectors (G_{it}) as a percentage of total expenditure (G_t), represented as (G_{it}/G_t)·100.
- For assessing the speed of structural changes, we used two indexes: Moore's index (q) { which is nothing but the angle between vectors of the relative share of PFCE in different sectors during the base period (i.e, W_{0i}) and current period (i.e, W_{1i} } and an index based on entropy measure. The choice between the two was determined based on their Coefficient of Variation (CV) values.

(iii) Estimation of Long-Term Behavioral Growth Paths

- We sought to identify the best-fit curves for the long-term behavioral growth paths of each government expenditure component.
- Seven functional forms were considered: Simple Linear (SLR), Quadratic (QUD), Cubic (CUB), Log-Linear (LLR), Log Quadratic (LQD), Log Cubic (LCB), and Geometric (GEO).
- Estimation of functional forms (i), (ii), and (iii) was carried out through OLS, while functional forms (iv) to (vii) were estimated using logarithmic transformation combined with OLS.
- The selection of the best-fit curve was based on criteria such as the coefficient of predictability (j), Residual Mean Square (RMS), and the Durbin-Watson (D-W) statistic. The curve with the highest j, lowest RMS, and a D-W statistic closest to two was chosen as the best fit.

(iv) Relative Growth Rate Calculation

- Utilizing the best-fit functional form, we calculated the relative growth rates (RGR_t) in different sectors of government final consumption expenditure as $RGR_t = t/G_t$.

- These growth rates were computed at different time points to examine various hypotheses concerning the behavioral growth paths of government expenditure components.

(v) Causal Relationship Analysis

- Granger's causality analysis was performed to investigate the causal relationship between government expenditure and domestic products.
- According to Granger's causality theorem, a time series (Y_t) is said to be caused by another time series (X_t) if forecasts of Y using both lagged values of Y and lagged values of X are superior to forecasts using past values of Y alone. The same principle applies in reverse for X.

In summary, our study involved a comprehensive collection of time-series data and employed various analytical methods, including growth rate calculation, structural changes analysis, curve estimation, relative growth rate computation, and causal relationship analysis. These methods were applied to assess the dynamics of government expenditure and its impact on domestic products over a thirty-year period in India.

5. ESTIMATION PROCEDURES

This study used Dynamic Panel Data Models which have the following techniques or estimators: Generalized Method of Moments (GMM) (either First Difference GMM or System GMM, that is; the Arellano-Bond estimator and the Arellano-Bover/Blundell-Bond estimator); Mean Group (MG); Pooled Mean Group (PMG); and Dynamic Fixed Effects (DFE). But since the number of time series for the study is relatively larger than cross-sections (T >N), non-stationary heterogeneous panel models are preferred where Pooled Mean Group (PMG) estimator and Mean Group (MG) estimator are considered. Hence, the PMG estimator constrains the long-run coefficients to be the same across countries and allows only the short-run coefficients to vary while the MG estimator estimates separate regressions for each country and computes averages of the country-specific coefficients, which provides consistent estimates of the long-run coefficients (that is, it allows for all coefficients to vary and be heterogeneous in the long-run and short-run). The Hausman test was therefore used to decide whether PMG or MG estimator is appropriate for the study. The study correlation analysis to show whether regressors have perfect or linearly exact representations of one another to avoid multicollinearity; panel unit root tests to ascertain whether any variable is integrated of order 2 or not. The desired level of integration of the variables is being stationary at level, I(0) or integrated of order one, I(1). The study used IM, Pesaran, and Shin (IPS) panel unit root test. The study assumed long-run homogeneity and tested the null hypothesis of homogeneity through a Hausman-

type test to compare between the Mean Group and the Pooled Mean Group (PMG) estimators. The decision rule is: to reject the null hypothesis if the probability value is less than 0.05. The null hypothesis is that MG and PMG estimates are not significantly different or PMG more efficient. Therefore, the outcome of the Hausman (1978)(24) test determines which estimator is most preferred.

5.1. Selection of Estimator

Given that the number of time series in our study exceeds the number of cross-sections (T > N), we opted for non-stationary heterogeneous panel models. Specifically, we considered the Pooled Mean Group (PMG) estimator and the Mean Group (MG) estimator, which are suitable for our dataset.

- The PMG estimator assumes long-run homogeneity across countries and allows only the short-run coefficients to vary.
- The MG estimator estimates separate regressions for each country and computes averages of the country-specific coefficients, providing consistent estimates of the long-run coefficients while allowing all coefficients to vary and be heterogeneous in the long-run and short-run.

To determine which estimator is most appropriate for our study, we conducted the Hausman test.

Hausman Test

- The Hausman test was used to decide between the PMG and MG estimators.
- The test aimed to determine whether the PMG estimator, which constrains long-run coefficients to be the same across countries, or the MG estimator, which allows for all coefficients to vary and be heterogeneous in the long-run and short-run, is more suitable.

5.2. Additional Analysis

In addition to estimator selection, we conducted several other analytical procedures:

1. Correlation Analysis

- We performed correlation analysis to assess whether regressors have perfect or linearly exact representations of one another, helping us avoid multicollinearity.

2. Panel Unit Root Tests

- To determine the level of integration of the variables, we conducted panel unit root tests.

- We aimed to ascertain whether any variable is integrated of order 2 (I(2)) or not. The desired level of integration for the variables is either stationary at level (I(0)) or integrated of order one (I(1)).
- The study employed the IM, Pesaran, and Shin (IPS) panel unit root test.

Null Hypothesis Testing

- Our analysis assumed long-run homogeneity, and we tested the null hypothesis of homogeneity.
- We conducted a Hausman-type test to compare the Mean Group (MG) and Pooled Mean Group (PMG) estimators.
- The decision rule was to reject the null hypothesis if the probability value was less than 0.05.
- The null hypothesis being tested was whether the MG and PMG estimates are significantly different or if PMG is more efficient.
- The outcome of the Hausman test determined which estimator was most preferred for our analysis.

In summary, our estimation procedure involved a careful selection of appropriate panel data estimators, as well as conducting correlation analysis, panel unit root tests, and hypothesis testing to ensure the robustness of our analytical approach.

6. ANALYTICAL RESULTS

6.1. Growth in Government Expenditure and Income

In our analysis, we focused on examining (in Table 1) the growth rates of major sectors of government expenditure and Net Domestic Product (NDP) while considering the impact of the liberalization regime. The table presents growth rates for different sectors of government expenditure and income over various periods. The relative change (RC) in growth rate is also provided.

Here are the key findings:

(i) Government Expenditure Growth:

- The Aggregated Government Expenditure (ACE) has experienced a fairly high rate of increase over the study period.
- The Education (EDN) sector recorded the highest rate of growth among government expenditure sectors, followed by the Social Security and Welfare Services (SWS) sector. This growth can be seen as a positive sign for human capital formation.

Table 1: Rates of Growth (r, in %) in Government Expenditure and Income (at Current Prices)

Period Sectors	*1990-91 to 1999-2000*	*2000-01 to 2009-10*	*2010-11 to 2019-20*	*1990-91 to 2004-05*	*2004-05 to 2019-20*	*1990-91 to 2019-20*	*RC***
Government Expenditure							
GPS	12.50	16.55	15.54	13.42	15.98	15.23	19.08
	(0.988)*	(0.998)	(0.983)	(0.989)	(0.993)	(0.992)	
DFS	11.38	17.20	14.01	12.17	13.56	14.05	11.42
	(0.970)	(0.969)	(0.990)	(0.986)	(0.990)	(0.995)	
EDN	16.40	18.01	16.96	17.46	16.94	17.48	-2.98
	(0.995)	(0.994)	(0.982)	(0.994)	(0.990)	(0.996)	
HLT	16.53	16.09	15.15	17.00	14.41	15.75	-15.23
	(0.998)	(0.996)	(0.979)	(0.995)	(0.985)	(0.994)	
SWS	14.24	16.79	16.20	17.25	17.83	17.25	3.36
	(0.977)	(0.950)	(0.992)	(0.946)	(0.995)	(0.997)	
HCA	15.23	18.86	11.36	16.48	14.47	16.44	-12.20
	(0.936)	(0.975)	(0.938)	(0.969)	(0.959)	(0.955)	
CRS	12.44	17.34	13.40	13.30	13.66	14.05	2.71
	(0.940)	(0.976)	(0.929)	(0.950)	(0.960)	(0.981)	
ECS	15.53	15.03	21.12	15.92	18.14	16.47	13.94
	(0.990)	(0.996)	(0.990)	(0.996)	(0.978)	(0.966)	
OTS	18.00	-4.09	12.63	10.64	10.46	5.81	-1.69
	(0.679)	(0.188)	(0.607)	(0.206)	(0.741)	(0.570)	
ACE	13.30	16.60	16.03	14.08	15.53	15.29	10.30
	(0.991)	(0.997)	(0.988)	(0.995)	(0.992)	(0.994)	
Income:							
PRM	9.37	11.77	14.25	10.54	14.65	12.44	38.99
	(0.939)	(0.978)	(0.974)	(0.975)	(0.987)	(0.983)	
SEC	13.59	15.30	14.50	13.76	15.20	14.59	10.46
	(0.996)	(0.993)	(0.978)	(0.998)	(0.987)	(0.995)	
TR1	15.20	16.17	17.04	15.67	17.01	16.31	8.55
	(0.986)	(0.998)	(0.992)	(0.996)	(0.996)	(0.997)	
TR2	11.54	14.50	20.06	11.94	18.86	15.14	57.96
	(0.994)	(0.997)	(0.992)	(0.997)	(0.996)	(0.953)	
TRT	13.06	15.31	18.62	13.55	17.99	15.65	32.77
	(0.991)	(0.998)	(0.995)	(0.996)	(0.998)	(0.981)	
ADP	11.53	13.95	16.21	12.28	16.19	14. 16	31.84
	(0.986)	(0.993)	(0.989)	(0.992)	(0.995)	(0.987)	

Note : *Figures in the parenthesis indicate j-values of predictability. **Relative change in growth rate.

- When analyzing the impact of the liberalization regime, six sectors, including General Public Services, Defence, Social Security and Welfare Services, Cultural, Recreational and Religious Services, Economic Services, and Aggregated Government Final Consumption Expenditure, were favorably affected.
- In contrast, the remaining four sectors, namely Education, Health, Housing and Other Community Amenities, and Other Services, were adversely affected by the liberalization policy. This indicates a mixed impact of the policy on government expenditure growth.

(ii) Income Growth (Net Domestic Product - NDP):

- The Tertiary-I sector experienced the fastest growth rate among all sectors of Net Domestic Product.
- The Primary sector had the slowest growth rate during the entire study period.
- Concerning the impact of the liberalization regime, all sectors of Net Domestic Product showed favorable effects due to the regime.

These findings offer valuable insights into the dynamics of government expenditure and income growth, shedding light on the impact of the liberalization regime on various sectors.

6.2. Restructuring Expenditure and Income: An Analysis

An examination of structural shifts in expenditure and income, as gauged by relative shares (see Table 2), reveals noteworthy trends.

Notably, the Education sector has made significant strides in improving its relative share of government final consumption expenditure. Conversely, while the relative share of the Defence Services sector has decreased, it remains the largest, underscoring the significant allocation of resources to activities that may yield fewer economic returns.

Within the context of net domestic product, the relative share of the Primary sector has dwindled, while that of the Aggregated Tertiary sector has risen. This trend poses potential concerns for the economy, as ideally, the decline in the Primary sector's share should have been absorbed by the Secondary sector. However, the actual scenario differs significantly, hinting at potential setbacks, particularly for the Industrial/Manufacturing sector, in the wake of liberalization policies.

Quantitative assessment of the pace of structural changes was conducted using two indices, q and x, with the latter proving more sensitive to these changes. According to the x-index, both government expenditure and domestic products have undergone substantial structural transformations, with government

Table 2: Relative Shares of Government Expenditure and Net Domestic Product in Major Sectors (at Current Prices)

Year/Sector	*1990*	*1995*	*2000*	*2005*	*2010*	*2015*	*2020*
			Government Expenditure				
GPS	24.63	23.19	22.48	22.19	23.01	23.40	24.82
DFS	39.16	40.63	35.56	35.78	34.30	30.86	29.64
EDN	9.99	10.22	12.66	14.69	15.42	15.30	16.99
HLT	5.28	5.82	6.94	7.21	6.81	6.21	6.35
SWS	2.70	2.28	2.58	2.72	3.46	3.57	3.30
HCA	1.53	1.78	1.65	2.20	2.47	2.14	1.88
CRS	1.02	0.87	0.90	0.83	1.02	0.74	0.58
ECS	13.78	12.66	15.07	13.64	13.18	17.33	15.93
OTS	1.91	2.55	2.16	0.74	0.33	0.45	0.51
ACE	100.00	100.00	100.00	100.00	100.00	100.00	100.00
			Net Domestic Product				
PRM	47.97	43.58	41.30	37.15	34.71	31.94	28.43
SEC	19.86	21.04	23.00	24.16	25.51	23.76	21.82
TR1	12.43	15.29	16.35	19.30	20.03	20.36	21.93
TR2	19.74	20.09	19.35	19.39	19.75	23.90	27.82
TRT	32.17	35.38	35.70	38.69	39.78	44.30	49.75
ADP	100.00	100.00	100.00	100.00	100.00	100.00	100.00

expenditure changing at more than double the rate of domestic products (see Table 3). Table 4 mention the estimates of parameters of best-fit equations for the Government Expenditure in the major sectors.

Table 3: Indices of Structural Changes in Government Final Consumption Expenditure (GFCE) and Net Domestic Product (NDP) in India

Indices/Period	*GFCE*		*NDP*		*ISI **
	θ	ζ	θ	ζ	
1990-91 to 1995-96	3.34	5.61	5.81	1.39	4.03
1995-96 to 2000-01	5.81	5.51	3.79	1.62	3.40
1990-91 to 2000-01	5.27	5.72	9.33	2.79	2.05
2000-01 to 2005-06	3.43	9.07	6.85	2.64	3.43
2005-06 to 2010-11	2.61	6.30	3.63	1.52	4.14
2000-01 to 2010-11	4.86	10.61	9.68	4.72	2.25
2010-11 to 2015-16	6.42	11.93	6.11	2.77	4.31
2015-16 to 2019-20	5.90	2.79	6.70	1.21	2.30
2010-11 to 2019-20	11.60	19.78	10.30	4.47	4.42
1990-91 to 2004-05	8.78	16.32	14.02	6.26	2.61
2004-05 to 2019-20	11.50	20.99	12.70	6.29	3.34
1990-91 to 2019-20	16.80	30.79	23.30	13.37	2.30
C.V.(%)	58.70	68.73	58.44	84.12	
R	0.93**		0.97**		

Note: * The index of structural imbalance (ISI) was constructed as ISI = ξGFCE /ξ NDP

** Correlation coefficient (r) between the two indexes (q and x) was statistically significant at p = 0.

Table 4: Estimates of Parameters of the Best-Fit Equation for Government Expenditure in Major Sectors

Sector	*Equation of best fit*	*Parameters of the best-fit equation*	*Phi*	*RMS*	*D-W statistic*
GPS	LCB	a = 0.987, b = 1.404E-02	0.999	5.049	1.060
		c = 4.193E-04, d = - 6.698E-06			
DFS	LCB	a = 1.001, b = 1.129E-02	0.995	1.485	0.767
		c = 5.173E-04, d = -1.035E-05			
EDN	LCB	a = 0.964, b = 2.571E-02	0.999	7.126	0.811
		c= 1.963E-04, d = - 4.408E-06			
HLT	QUD	a = 0.966, b = 3.220	0.999	8.733	0.733
		c = -1.157			
SWS	LCB	a = 0.945, b = 2.539E-02	0.995	5.108	0.958
		c = 7.346E-04, d = -1.443E-05			
HCA	CUB	a = 1.320, b = 2.782E-02	0.988	5.730	1.601
		c = - 7.118E-03, d = 2.704E-03			
CRS	LCB	a = 0.958, b = 3.131E-02	0.989	1.415	1.707
		c = 5.592E-04, d = - 1.2 53E-05			
ECS	LCB	a = 0.949, b = 2.718 E-02	0.998	1.064	1.280
		c = - 3.594E-04, d = 1.061E-05			
OTS	CUB	a = - 0.246, b = 0.773	0.715	1.348	1.821
		c = - 5.914E-02, d = 1.437E-03			
ACE	LCB	a = 0.987, b = 1.398E-02	0.999	3. 294	0.891
		c = 2.187E-04, d = - 3.618E-06			

6.3. Correlation Findings

Table 5 presents the results of the correlation analysis generated by the author using STATA 15 Output. These results suggest that none of the regressors exhibit linear dependence on each other, indicating the absence of multicollinearity within the model.

Table 5: Correlation Test Results

	GDP	*GSP*	*HCE*	*GFCF*	*TBAL*	*FDI*	*EXR*	*UEM*
GDP	1							
GSP	0.8952	1						
HCE	0.7711	0.838	1					
GFCF	0.6714	0.6122	0.5925	1				
TBAL	-0.0152	-0.0492	-0.1171	0.0059	1			
FDI	0.7354	0.6357	0.7284	0.4739	-0.0738	1		
EXR	-0.0503	-0.0592	-0.0392	-0.0387	-0.0134	-0.0188	1	
UEM	0.1852	0.2804	0.1441	0.1550	0.1373	0.0579	-0.1273	1

Source: Authors' Computation.

A deeper analysis of the growth trajectories of various components of India's government final consumption expenditure and net domestic product reveals nonlinear patterns. Most growth paths for these components tend to follow either ordinary cubic or logarithmic cubic trends. Relative growth rates (see Table 6), computed from the best-fit paths (see Table 4), suggest an inverted U-pattern for most government final consumption expenditure components. In contrast, a majority of net domestic product components exhibit accelerating growth, with the Secondary sector being the exception (see Tables 5 and 6).

In sum, the liberalization policy initiated around 1984-85 appears to have curtailed government expenditure, likely due to privatization and disinvestment measures in the public sector. These measures, in turn, were expected to enhance overall economic efficiency and spur accelerated income growth.

6.4. Panel Unit Root Tests: Summary

Table 6 displays the outcomes of the panel unit root tests.

Table 6: Stationarity Test Results

Variables	*Im, Peseran and Shin (IPS)Decision*			
	W-t-bar Statistic	*Probability Value*	*Order*	*Remark*
GDP	14.8423	1.0000		Not Stationary
D.GDP	-18.4662	0.0000*	1(1)	Stationary
GSP	10.4260	1.0000		Stationary
D.GSP	-15.0927	0.0000*	1(1)	Stationary
HCE	12.6151	1.0000		Not Stationary
D.HCE	-16.2025	0.0000*	1(1)	Stationary
GFCF	8.2481	1.0000		Not Stationary
D.GFCF	-17.8993	0.0000*	1(1)	Stationary
TBAL	1.6054	0.9458		Stationary
D.TBAL	-19.0151	0.0000*	1(1)	Stationary
FDI	0.7819	0.7829		Not Stationary
D.FDI	-25.7833	0.0000*	1(1)	Stationary
EXR	12.0470	1.0000		Not Stationary
D.EXR	-15.8265	0.0000*	1(1)	Stationary
UEM	0.3235	0.6268		Not Stationary
D.UEM	-14.2024	0.0000*	1(1)	Stationary

Source: Authors' Computation.

Note: The asterisk (*) denotes rejection of the null hypothesis that series has a unit root at a 5% level of significance.

The results presented in Table-6 reveal that unit roots are present at the levels within all the panels. Nevertheless, after applying first differences, the variables exhibit integration of order one. Consequently, the variables do not display integration of a higher order than one, thus meeting the prerequisites for employing panel ARDL or non-stationary heterogeneous panel models.

6.5. Influence of Government Spending Behavior on National Income Growth

This study utilized Panel ARDL analysis, and the findings are outlined in Table 7. To determine our preferred estimator, we conducted a Hausman test, where we reject the null hypothesis (Ho: difference in coefficients is not systematic) if the chi-square probability value is less than 0.05. In such a case, we conclude that the difference in coefficients is systematic, and we favour the estimates derived from the MG estimator. Otherwise, PMG estimates would be the preferred choice.

Table 7: Hausman Test Results for National Income Model

	(b)	*(B)*	*(b-B)*	*sqrt (diag (V_b-V_B))*
Variables	mg	pmg	Difference	S.E
GSP_POS	-669.1206	1.038473	-700.1591	1437.51
GSP_NEG	1.579347	-0.9196451	2.4989921	7.11125
HCE	22.1855	0.9780268	21.20747	35.7696
GFCF	-1.907433	0.9910314	-2.898465	3.83489
TBAL	0.701843	0.9637353	-0.2618709	2.5271
FDI	5.066443	0.2279045	4.838538	7.25831
EXR	-3.411357	0.0002503	-3.411607	7.18233

Chi-square = 4.24
Prob. = 0.7520

Source: Author's Computed from STATA 15 Output

In Table 7, the chi-square statistic yields a value of 4.24, associated with a probability of 0.7520, which exceeds the significance threshold of 0.05 (at a 5% level). Consequently, we do not reject the null hypothesis, leading us to conclude that the PMG estimator should take precedence over the MG estimator.

The implications of adopting the Pooled Mean Group (PMG) estimator become evident in Table 8, where it imposes uniformity in long-run coefficients across countries (cross-sections). Only short-run coefficients are allowed to vary, reflecting adjustments related to short-term policy changes and structural shifts. The PMG estimator results indicate a substantial and statistically significant positive impact of increasing government spending on the long-run growth of national income in India, registering at 1.03847 with a 5% level of observed

Table 8: Long-Run Estimates

GDP	*Coefficient*	*Std. Err.*	*z*	*PÃ|z|*
GSP_POS	1.03847	0.047393	21.91	0.000*
GSP_NEG	-0.91965	0.078515	−11.71	0.000*
HCE	0.97803	0.008863	110.35	0.000*
GFCF	0.99103	0.020663	47.96	0.000*
TBAL	0.96374	0.270757	35.59	0.000*
FDI	0.2279	0.053773	4.24	0.000*
EXR	0.00025	0.000068	3.68	0.000*

Source: Author's Computed from STATA 15 Output.

Note: The asterisk (*) denotes rejection of the null hypothesis that the estimate of the variable is highly significant at a 5% level of observed significance.

significance. This suggests that a rise in government expenditure corresponds to a 1.03847 unit increase in national income growth. Conversely, a reduction in government spending leads to a 0.91965 decrease in national income growth. This observation highlights an asymmetric influence of government spending behavior on income growth in India, emphasizing the greater benefit of increasing government spending over fiscal cutbacks, particularly for developing economies like India.

Furthermore, other key estimates, such as household consumption expenditure, gross fixed capital formation, trade balance, foreign direct investment, and exchange rate, exhibit both theoretical significance and statistical significance at the 5% level. Specifically, an increase in household consumption expenditure, higher gross fixed capital formation, a trade balance surplus, increased foreign direct investment inflows, and exchange rate depreciation all positively contribute to long-term income growth in India.

In the short run, mixed effects of government spending on national income are discerned due to variations in short-term and medium-term policies. However, the study unveils a noteworthy speed of adjustment toward long-run equilibrium, particularly in addressing initial distortions.

6.6. Examining the Impact of Government Spending on Unemployment

To evaluate the influence of government spending behavior on unemployment, this study employed the Panel ARDL approach and subjected the results to a Hausman test. The chi-square probability value of this test played a crucial role in estimator selection. Specifically, if the probability value is less than 0.05, we reject the null hypothesis (Ho: difference in coefficients not systematic), indicating that the differences in coefficients are systematic. In such cases, we favor the MG

estimator. Conversely, if the chi-square probability value exceeds 0.05, we opt for PMG estimates.

The PMG estimator's outcomes underscore a significant and negative long-term impact of increasing government spending on unemployment, quantified at -0.285 with a 5% level of observed significance. In practical terms, this suggests that augmenting government expenditure results in a 0.285 reduction in the unemployment rate. Conversely, a decrease in government spending corresponds to a 0.475 increase in the unemployment rate. This finding illuminates the asymmetric nature of government spending's effect on unemployment, highlighting the greater efficacy of bolstering government spending over reduction measures, especially in the context of developing economies like India.

Moreover, several other variables, including household consumption expenditure, gross fixed capital formation, foreign direct investment, and exchange rates, exhibit both theoretical relevance and statistical significance at the 5% level. Notably, government spending on unemployment demonstrates mixed effects in the short run, influenced by variations in short-term and medium-term policies.

Additionally, the positive correlation between exchange rates and unemployment suggests that exchange rate depreciation imposes additional costs on firms and individuals, impeding production levels and consequently increasing unemployment. Lastly, the study identifies a rapid convergence towards long-run equilibrium, particularly in addressing initial distortions.

6.7. Causality Analysis Insights

In our causality analysis, we first introduced trend stationarity to each time series. Subsequently, we conducted causality assessments between the ten major aggregates of government final consumption expenditure and the six major aggregates of net domestic product. Due to space constraints, we've presented the computations specifically for the comparison between aggregated government final consumption expenditure and various aggregates of net domestic product (see Table 9).

In examining the causal relationship between Aggregated Government Final Consumption Expenditure and Aggregated Income, the variance ratio (F) associated with the R^2 value emerged as highly significant. This suggests that the estimated equation effectively explains variability within the time-series data. Additionally, both the Box-Pierce (B-P) and Ljung-Box (L-B) statistics indicated non-significance, implying that the residuals obtained from the estimated equation exhibit a white-noise pattern.

When we imposed restrictions on the model, focusing solely on the current value of Y_t in relation to its past values, we observed a reduction in both R^2 and R^2 values, with R^2 experiencing a decrease of approximately 7.7 percent. However, it's noteworthy that this reduction, as per the variance ratio test, was not statistically significant. This suggests that the inclusion of current and lagged values of the X variable did not substantially enhance the predictive power of the Y variable. In simpler terms, aggregated net domestic product does not appear to act as a causal variable in this context.

In our analysis, we examined two types of relationships: unrestricted (where Y_t was linked to current and past values of X_t and past values of Y_t) and restricted (where Y_t was linked only to its past values). Both relationships were estimated with lag lengths (p and q) set at 2, a choice that balanced capturing past effects while avoiding undue complexity and loss of degrees of freedom.

Across both relationships, we calculated coefficients of multiple determination (R^2), adjusted coefficients of multiple determination (R^2), variance ratios (F) for R^2, variance ratios for improvements in R^2, Durbin-Watson (D-W) statistics, Box-Pierce (B-P) statistics, and Ljung-Box (L-B) statistics for aggregated government final consumption expenditure. Notably, we found no indications of reverse causality between the two variables. Consequently, it appears that the time series for both variables evolved independently over the study period. A similar pattern was also observed in the context of aggregated government expenditure and income.

Table 9 : Estimates of Parameters of the Best-Fit Equation for Net Domestic Product in Major Sectors

Sector	*Equation*	*Parameters of the best-fit equation*	*Phi*	*RMS*	*D-W statistic*
PRM	CUB	a = 0.534, b = 0.346c = - 3.618E-02, d = 1.835E-03	0.996	0.247	1.404
SEC	LCB	a = 0.989, b = 1.231E-02 c = 1.789 E-04, d = - 2.971E-06	0.999	1.934	1.043
TRI	LCB	a = 0.980, b = 1.653E-02c = 4.420E-05, d = 4.295E-08	0.999	2.713	1.004
TR2	LCB	a = 0.992, b = 1.060E-02c = 8.738E-05, d = 2.979E-06	0.998	3.177	1.007
TRT	LCB	a = 0.988, b = 1.193E-02c = 8.349E-05, d =1.153E-06	0.999	1.745	0.809
ADP	CUB	a = -0.373, b = 0.807c = - 0.086, d = 3.601E-03	0.999	0.226	0.846

Table 10: Temporal Changes in Relative Growth Rates (RGR) in Major Components of Government Expenditure and Net Domestic Product

Year/Sector	*1990-91*	*1995-96*	*2000-01*	*2005-06*	*2010-11*	*2015-16*	*2019-20*	*C.R**
Government expenditure								
GPS	1.49	1.84	2.08	2.23	2.28	2.23	2.11	20.95
DFS	1.23	1.64	1.89	1.99	1.93	1.72	1.44	23.60
EDN	2.61	2.76	2.84	2.86	2.81	2.70	2.56	5.53
HLT	-28.06	-49.19	43.60	22.41	14.54	10.71	8.83	1659.92
SWS	2.68	3.26	3.63	3.78	3.71	3.43	3.05	17.03
HCA	1.61	12.91	19.54	17.03	13.89	11.49	10.04	84.77
CRS	3.24	3.67	3.91	3.96	3.82	3.50	3.10	12.18
ECS	2.65	2.40	2.31	2.38	2.61	3.00	3.43	19.51
OTS	140.47	8.50	-0.21	-0.54	5.92	11.92	12.96	100.77
ACE	1.44	1.62	1.75	1.82	1.84	1.80	1.73	12.19
Net domestic product								
PRM	32.97	6.45	8.99	13.83	14.20	12.62	11.22	67.27
SEC	1.27	1.41	1.52	1.58	1.59	1.56	1.50	11.19
TR1	1.66	1.71	1.75	1.80	1.84	1.89	1.93	7.52
TR2	1.08	1.20	1.36	1.57	1.82	2.12	2.39	37.75
TRT	1.21	1.31	1.42	1.55	1.70	1.86	2.01	24.84
ADP	0.91	1.04	1.17	1.28	1.38	1.47	1.54	25.71

Note : * Coefficient of Range (C.R.) ? RGR max - RGRmin , RGR max + RGRmin

Table 11: Results on Causal Linkage in Respect of Different Combinations of Government Final Consumption Expenditure and Net Domestic Product

Effect (Y)	*Cause (X)*	*Form*	*R2 (%)*	*R2 (%)*	*F-ratio for R2*	*D.F.*	*D-W*	*B-P*	*L-B*	*No. of iterations*
GCE_{ACE}	NDP_{ADP}	UNR	54.88	44.63	5.352**	5, 22	1.627	6.322	8.646	45
		RST	47.13	42.90	11.142**	2, 25	1.366	6.427	8.734	3
		IMP	7.75	1.73	1.260NS	3, 22				
NDP_{ADP}	GCE_{ACE}	UNR	46.34	34.15	3.800*	5, 22	1.902	6.514	8.863	1
		RST	38.48	33.56	7.820**	2, 25	1.887	6.983	9.530	155
		IMP	7.86	0.59	1.074NS	3, 22				
GCE_{ACE}	NDP_{PRM}	UNR	58.25	48.77	6.140**	5, 22	1.710	8.012	11.264	3
		RST	47.13	42.90	11.142*	2, 25	1.366	6.427	8.734	1
		IMP	11.12	5.87	1.954NS	3, 22				
NDP_{PRM}	GCE_{ACE}	UNR	45.17	32.71	3.624*	5, 22	2.133	6.184	8.745	3
		RST	32.76	27.38	6.091**	2, 25	1.995	9.288	13.143	1
		IMP	12.41	5.33	1.659 NS	3, 22				

Effect (Y)	*Cause (X)*	*Form*	*R2 (%)*	*R2 (%)*	*F-ratio for R2*	*D.F.*	*D-W*	*B-P*	*L-B*	*No. of iterations*
GCE_{ACE}	NDP_{SEC}	UNR	54.15	43.72	5.196**	5, 22	1.330	6.687	8.768	1
		RST	47.13	42.90	11.142**	2, 25	1.366	6.427	8734	3
		IMP	7.02	0.82	1.122 N S	3, 22				
NDP_{SEC}	GCE_{ACE}	UNR	38.74	24.82	2.783*	5, 22	2.073	9.422	13.385	1
		RST	27.15	21.32	4.659*	2, 25	2.016	4.719	6.860	3
		IMP	11.59	3.5	1.388NS	3, 22				
GCE_{ACP}	NDP_{TRI}	UNR	63.64	55.38	7.70**	5, 22	1.337	9.535	12.573	1
		RST	47.13	42.90	11.142**	2, 25	1.366	6.42	8.734	3
		IMP	16.51	12.48	3.332NS	3, 22				
NDP_{TRI}	GCE_{ACE}	UNR	63.80	55.58	7.756**	5, 22	2.496	7.966	10.653	235
		RST	57.61	54.22	16.99**	2, 25	2.234	6.116	7.986	164
		IMP	6.19	1.36	1.254 NS	3, 22				
GCE_{ACE}	NDP_{TR2}	UNR	58.14	48.62	6.111**	5, 22	1.277	9.327	12.242	107
		RST	47.13	42.90	11.142**	2, 25	1.366	6.427	8.734	3
		IMP	11.01	5.72	1.929 NS	3, 22				
NDP_{TR2}	GCE_{ACE}	UNR	30.36	14.53	1.918 NS	5, 22	1.930	5.153	6.497	440
		RST	23.94	17.86	3.935*	2, 25	1.925	4.922	6.189	1
		IMP	6.42	-3.33(?0)	0.676 NS	3, 22				
GCE_{ACE}	NDP_{TRT}	UNR	57.84	48.26	6.037**	5, 22	1.300	10.295	13.630	213
		RST	47.13	42.90	11.142**	2, 25	1.366	6.427	8.734	3
		IMP	10.71	5.36	1.864 NS	3, 22				
NDP_{TRT}	GCE_{ACE}	UNR	61.18	52.36	6.934**	5, 22	2.260	4.855	6.331	386
		RST	44.12	39.65	9.870**	2, 25	2.199	3.622	4.682	1
		IMP	17.06	12.71	3.223*	3, 22				

We calculated the RGR max + RGRmin for each of the Primary, Secondary, Tertiary I, and Tertiary II sectors, relative to the others. However, when examining the relationship between Aggregated Government Final Consumption Expenditure and the Aggregated Tertiary sector, we found a significant variance ratio for improvement in the coefficient of determination at a 5 percent probability level. This suggests the presence of unidirectional causality, with causation flowing from aggregated consumption expenditure to the aggregated income of the tertiary sector.

6.8. Causality Relationships in Government Expenditure and Income

The examination of causality behavior between disaggregated government expenditure and both aggregated and disaggregated income reveals interesting insights. In most cases, we found no discernible causal relationship. However, a few exceptions stand out:

1. Unidirectional causality was evident when considering expenditure on General Public Services as the effect variable and income from the primary sector as the cause variable. In all other combinations, no causal relationship was detected. Therefore, income from the primary sector uniquely exhibited a causal link with government expenditure on General Public Services.
2. Government expenditure on Defence Services did not exhibit any causal linkage with aggregated or disaggregated income. This implies that the Indian government must allocate a substantial budget for defense services, regardless of the level of net domestic product. Unfortunately, this sector does not significantly contribute to income generation due to its inherently low productivity. This outcome, while not ideal, can be attributed to the strategic importance of the defense sector in safeguarding national security.
3. Government expenditure on the Educational and Health sectors also showed no causal relationship with income from any major sector. Despite increased government spending in these areas, they have failed to produce a skilled workforce, possibly due to inefficiencies within their existing frameworks. Consequently, these sectors have not made a substantial contribution to national income.
4. For government expenditure on Social Security and Welfare Services, as well as aggregated income, no causal linkage was observed. Similar patterns emerged when examining disaggregated income, with the exception of the Primary sector. In this case, income from the primary sector exhibited a unidirectional causal relationship with expenditure on Social Security and Welfare Services.
5. A unidirectional causality was observed between income from the aggregated tertiary sector and expenditure on economic services. However, no causality was detected regarding expenditure on other services and income from aggregated or disaggregated sectors.

In summary, there is no clear-cut pattern of causal linkages between different income and expenditure components. Most combinations indicate an absence of causality, suggesting the independence of these variables. These findings align with expectations, as a significant portion of government expenditure is directed toward non-commercial activities like defense and social infrastructure, viewed primarily as strategic or social obligations of the government.

Out of a total of sixty combinations, only seven exhibited unidirectional causal links. Among these, two displayed causality running from government expenditure to net domestic product, reflecting the Kuznets law. In just one

combination (specifically, income from the primary sector and government expenditure on General Public Services), causality ran from income to expenditure, affirming the validity of Wagner's law. These results are consistent with the research of Sethi (1997) (25) and align with the context of Wagner's law within the Indian economy.

7. KEY FINDINGS AND IMPLICATIONS

This study has revealed an asymmetric impact of government spending on both national income and unemployment in the context of India. The implications are significant: increasing government spending not only stimulates economic growth but also reduces the level of unemployment. This aligns with the theoretical argument put forth by Keynes, emphasizing that heightened government spending results in elevated aggregate demand, fostering rapid growth in national income and curbing unemployment (Keynes, 1936)(2).

However, it's noteworthy that the positive effects on national income and the reduction in unemployment stemming from increased government spending outweigh the adverse consequences of decreased government spending in India. In essence, the economic benefits of augmenting government expenditure are more pronounced compared to the income and employment repercussions of reduced government spending.

8. RECOMMENDATIONS

1. **Reallocate Defence Spending**: The Defence services sector has consistently consumed a substantial share of resources without demonstrating a causal link to income generation from any sector. This suggests that resources allocated to defence could be redirected towards more productive developmental activities. The Government of India should focus on creating a conducive environment, both domestically and with neighbouring countries, to reallocate surplus resources for developmental purposes.
2. **Enhance Education Sector Efficiency**: Despite substantial government spending on the Education sector, it has not translated into income generation. This discrepancy may be attributed to misconceptions and inefficiencies in the existing system. It is crucial to implement measures that ensure that investments in education lead to human capital development, a fundamental prerequisite for economic growth. Efficiency and effectiveness in educational policies and practices are essential.
3. **Boost Government Expenditure**: Increasing government expenditure is recommended to stimulate economic growth and generate employment opportunities. Government spending has the potential to boost aggregate

demand, which, in turn, creates jobs and contributes to higher output. Given the reluctance of private investors to make substantial investments for robust national income and employment growth, judicious allocation of government resources is vital in achieving macroeconomic objectives, including employment, income growth, and economic stability.

4. **Implement Progressive Taxation**: Consider implementing a progressive tax system to ensure a more equitable distribution of income and wealth. These fiscal instruments can be harnessed through expansionary fiscal policies, fostering a fairer distribution of resources and promoting social equity. Such measures can contribute to a more balanced and inclusive economic landscape.

Incorporating these recommendations into policy planning and implementation can potentially lead to more efficient resource allocation, improved educational outcomes, and enhanced economic growth and equity in India.

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