

## **TREND AND COMPOSITION OF INDIA'S DEFENCE EXPENDITURE: AN EVALUATION**

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### **ABSTRACT**

The aim of present study is to provide an overview of the trend and composition of India's defence expenditure. The study is non-experimental and analytical, basing its conclusions on a variety of statistical data on India's defence spending from 1961–1962 through 2019–20. During the study period (1961–2019), the trend in Indian defence spending changed. According to SIPRI 2022, India, spent \$76.6 billion, or 3.6% of global shares, was still ranked third among the top 5 countries in the world. However, its defence spending has increased, rising from 2.6% of GDP in 2012 to 2.7% by 2021. In India, the defence sector received the largest share of CGE compared to the fields of education, health, housing, and transportation and communication. In comparison to Pakistan's spending, India's defence spending as a percentage of GDP has recently been lower, at 2.7 per cent. To manage the nation's internal security and rising tensions with its neighbors, defence spending should generally be increased. In comparison to revenue expenditure, India's capital defence spending is a smaller portion of its total defence spending. In order for the nation to address the growing risks and challenges to national security, it is necessary to invest in equipment modernization and the purchase of technology. Therefore, it is necessary to shift more funds from revenue expenditure to capital expansion in order to promote economic growth.

**KEYWORDS:** Central Government Expenditure, Composition, Defence Expenditure, Gross Domestic Product, Trend.

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### **I. INTRODUCTION**

Defence investment is one of the most effective measures to assess a nation's potential military strength. A useful way to assess relative military capability is to compare defence spending between nations. Spending patterns might also reveal important political developments that have

led to changes in defence spending. No matter how much money a nation spends on its military, it still needs to convert its potential power into the intended results (SIPRI, 2022). The aim of present study is to provide an overview of the trend and composition of India's defence expenditure. However, to discuss India's trend of defence expenditure, it is indeed necessary to understand the world's trend of defence expenditure. The study is non-experimental and analytical, basing its conclusions on a variety of statistical data on India's defence spending from 1961–1962 through 2019–20.

## II. REVIEW OF LITERATURE

- **Thomas (1978)** analyzed the India's defence budgets over a period 1947 to 1974. The study showed that changes in India's defence expenditure were the results of changes in internal and external security environment. This study focused more on external security environment changes and little attention was given to internal problems. The study suggested that 1962, 1965 and 1971 external aggressions on India were the major causes of changes in defence expenditure.
- **Lakshmi (1988)** verified that changes in Indian defence expenditure were response to changes in external and internal security threats during 1962-1986. Both assumed the base of changes in internal and external security threats perceptions for decoding the changes in inter-services sharing of defence expenditure. The fall in Army's expenditure and rise in Naval and Air Force expenditures after 1971 war were described as main determinants along with the changes in security environment and changes in the type of threats to Indian security. Civil wars often have substantial security implications in developing countries.
- **Ball (1988)** contended that an internal security threat was strong and large enough to outweigh the external security considerations for developing countries. The major purpose of the military was to protect the government against its own citizens. Military expenditure budgets were employed by both civilian and military administrations to meet the demand for armed forces.
- **Hewitt (1993)** examined the drivers of military expenditure in 125 nations from 1972 to 1990 in order to better understand the factors that influence military spending. The study found that between 1985 and 1990, global military spending fell by more than 20% as a percentage of GDP. According to the study, worldwide war has a considerable and positive

impact on military burden in emerging countries. Reduced military spending by countries at war is most likely due to improved security.

- **Smith (1994)** evaluated the Indian defence expenditure and defence policy pattern over the period 1947 to 1994 and criticized the increasing level of India's defence expenditure. This study found that increasing level did not match with the external and internal security threats, but it was far higher than what was required. India spent more on defence according to Smith and this was done to keep the status of regional power especially after 1971.
- **Dunne and Mohammed (1995)** evaluated the military spending in 13 Sub-Saharan African countries from 1967 to 1985 and found that civil war dummies had a large and beneficial influence on the military burden.
- **Hou (2009)** investigated the impact of military expenditure on economic growth in India, using data from 36 developing nations. The results of this study, which used numerous panel data and cross-sectional approaches to discover the effects of military expenditure on economic growth, suggested that military expenditure had a negative impact on economic growth.
- **Zahir et al., (2017)** analyzed the relationship between military expenditure and economic growth in Pakistan, India, Bangladesh, and Sri Lanka, four of the eight SAARC countries. This study was based on time series of chosen dependent and explanatory variables from all nations throughout the period 1985-2015. By using regression (OLS) the study suggested that for maintaining security and sovereignty of the country in today's world it was necessary to expend a good amount of national income on the defence and military. The empirical results of the study indicated that military expenditure affected negatively economic growth in India and Pakistan, while in case of Bangladesh and Sri Lanka evidence suggested a positive impact of military expenditure on economic growth in both of countries.
- **Mohanty et al., (2020)** applied the Autoregressive Distributed Lag and Toda-Yamamoto Granger Causality approach for the period 1970-1971 to 2015-2016. It was found that defence expenditure had a positive and significant impact on economic growth in India. The study also revealed that capital defence expenditure had a positive and significant effect on economic growth, whereas revenue defence expenditure did not influence economic growth. The causality test confirmed bidirectional causality between defence expenditure and economic growth, while it showed a unidirectional causality that run from

capital defence expenditure to economic growth. The study recommended that defence expenditure, especially capital defence expenditure, should have encouraged increasing economic growth in the Indian economy.

- **Sharma (2023)** explored emerging trends in India's defence expenditure. The rise of asymmetric threats, advancements in military technology, and the need for modernization are identified as key drivers. These studies contribute to a forward-looking perspective, offering insights into potential shifts in defence spending patterns.

### III. OBJECTIVE OF STUDY

- A. To provide an overview of the trend and composition of India's defence expenditure.

### IV. RESEARCH METHODOLOGY AND DATA COLLECTION

The study is non-experimental and analytical, basing its conclusions on a variety of statistical data on India's defence spending from 1961–1962 through 2019–20. The data of Global Military Expenditure is collected from Stockholm International Peace Research Institute (SIPRI) published by Oxford University Press. The data on the Indian defence expenditure, Gross Domestic Product and Central Government Expenditure are collected from the Defence Expenditure Statistics (DES) published by Ministry of Finance and Handbook of Statistics on the Indian Economy published by Reserve Bank of India (RBI). The data on different other variables are obtained from the World Development Indicators (WDI) published by World Bank Group and Indian Public Finance Statistics published by Department of Economic Affairs. The undertaking of the current study would have been valuable since India gained independence in 1947; however, this research relies on time series data spanning from 1961-62 to 2019-20. This timeframe was chosen because the Indian government intensified its focus on defense expenditure in the aftermath of the 1962 China-India conflict, which escalated into a full-fledged war. The study primarily analyzes revenue and capital defense expenditure over a span of 35 years, from 1985-86 to 2020-21, based on data availability considerations.

**V. DATA ANALYSIS AND INTERPRETATION**

Every nation devotes a sizable amount of its resources to defence spending since it is a crucial aspect of overall national security (Behera, 1999). According to the Stockholm International Peace Research Institute (SIPRI), in 2022, Global defence spending was projected to be over US \$2113 billion in 2021; in real terms, this represented a 0.7% increase over 2020 and a 13% increase over 2012. With a military budget of \$76.6 billion in 2021, India ranked third among the top 5 nations in the world. However, India continues to be one of the world's poorest nations based on per capita PPP-adjusted gross national income, which is currently \$6,284 and places India 124th out of 186 nations (IMF, 2020).

**Table 1: Top 5 Countries Global Military Expenditure**

Rank 2021	Rank 2020	Country	Spending 2021 (US \$ bn)	Changes % 2020-2021	Change % 2012-21	Share of GDP (%) 2021	Share of GDP (%) 2012	World Share 2021(%)
1	1	United States	801	-1.4	-6.1	3.5	4.5	38
2	2	China	293	4.7	72	1.7	1.7	14
3	3	India	76.6	0.9	33	2.7	2.6	3.6
4	6	United Kingdom	68.4	3.0	3.7	2.2	2.4	3.2
5	5	Russia	65.9	2.9	11	4.1	3.7	3.1
		<b>Total Top 5</b>	<b>1305</b>					<b>62</b>
22	22	Pakistan	11.3	-0.7	47	3.8	3.5	0.5
		<b>World Total</b>	<b>2113</b>	<b>0.7</b>	<b>12</b>	<b>2.2</b>	<b>2.3</b>	<b>100</b>

**Source: World Armaments and Disarmaments, SIPRI Yearbook 2022, Oxford University Press.**

Note: GDP is calculated on current market exchange rates in US dollars i.e. not in terms of purchasing power parity (PPP). GDP= Gross Domestic Product

Table 1 shows that with \$76.6 billion, India spent the most on defence in South Asia in 2021. It was 2.7% higher than it was in 2020. India has greatly expanded its defence spending during the previous few decades. It climbed by 34% from 2011 to 2020 and by 259% from 1990 to 2019 (SIPRI, 2020). However, the nation's defence spending increased from 2.7% of GDP in 2011 to 2.9% in 2020. India's ongoing dispute with Pakistan over Kashmir and the resurgence of border tensions with China were the main drivers of this increase in defence spending. Due to the COVID-19 pandemic's negative economic effects, the GDP of practically all nations worldwide fell in 2020. However, it has been noted that most nations saw an increase in their military burden as a result, regardless of whether their military spending increased or decreased in 2020 (SIPRI, 2021). In India, from the early 1960s, the amount spent on defence in terms of dollars, as a percentage of GDP, and as a share of all government spending has varied significantly. It is impossible to adequately analyze the pattern of defence spending during this period of time without diving deeper into the past.

## A. The period prior to 1960

India's planning process started in 1950, when it unveiled its first five-year plan after gaining Independence. Modern management strategies with a strong scientific foundation were used for planning. The first Prime Minister of India, Pandit Jawahar Lal Nehru, engaged a well-known management specialist to support the national administration. During this decade, economic development was prioritized over defence as a way to build the country's infrastructure and industrial and manufacturing base. The years from 1950 to 1962 are regarded as a time when defence spending was especially low because of the leaders' outwardly calm foreign policy. They preferred an India that would broaden its spheres of influence through international diplomacy and non-aligned activities rather than one that was militarily powerful. Between 1950 and 1962, the perception of threat was mostly seen in terms of internal security. The issue of bringing almost 500 princely states into the Indian Union was settled amicably; with the exception of the outliers at Junagadh and Hyderabad (although the problems in Jammu & Kashmir brought on by violent incursions by Pakistan Milita continue to persist). The developmental strategy was seen to be the best course of action in these situations to resolve the issues the developing state was experiencing. One might refer to this as "years of innocence" (Mohan, 2004). As a result, it is clear that the Indian government overlooked the defence industry until 1962, as evidenced by the fact that



defence spending made up only 2% of GDP while accounting for 7% of CGE (Sethi, 1995). Due to an incorrect sense of security and faith in the effectiveness of international relations based on peace overtures, the actual expenditure on defence was fairly low (Mohan, 2004).

## **B. The period between 1960 to 1990**

Between 1960 and 1990, a number of security, economic, and political issues affected India's defence spending. The Indian government completely ignored the defence industry in the 1950s; as a result, India suffered significant consequences in 1962 during the Chinese invasion. The fallout from China's invasion in 1962 brought to light significant defensive gaps in India, forcing the government to emerge from a deep sleep (Sethi, 1995). The need for more security spending was therefore realised in order to protect India's security and counter perceived threats. As a result, the defence budget practically doubled. Actual spending rose from Rs. 2.90 billion in 1961–1962 to Rs. 8.16 billion in 1963–1964 immediately following the Chinese war. A notable increase in the percentage of GDP devoted to defence spending was also seen, rising from 1.61 percent in 1961–1962 to an all-time high of 3.71 percent in 1963–1964 (Mohan, 2004).

After India's lack of readiness during the Indo-Chinese War in 1962 came to light, Pakistan took advantage of the occasion and attacked India in the middle of 1965. In an effort to make things worse for India, China also threatened its northern frontiers. But despite having armaments from World War II, India's defence troops ultimately defeated Pakistan handily, and the war was settled. These two incidents compelled the Indian government to make prudent plans for the defence industry and to give it top attention. As a result, India regained her honor. India's First Five-Year Defence Plan was subsequently created between 1964 and 1969, however it was unsuccessful because to resource shortages, a lack of economic growth, a drought, and the depreciation of the rupee in the middle of the 1960s. As a result, GDP growth during this time fell to 2%, which was insufficient to fund defence spending because, from 3.71 percent in 1963–1964 to just over 2 percent by the end of the 1960s, defence spending had decreased (Ministry of Finance, 1991).

The progress in the defence build-up, which had begun in 1963–1964 following the Sino–Indian War, continued during the 1970s, albeit more slowly. India's economy once again suffered during this time due to low agricultural production, repeated monsoon failures, and a spike in fuel prices following the 1973 Yom Kippur War. The Indo-Pak War of 1971 and its aftermath, which left India dealing with the issue of Bangladeshi refugees, added to our promises. As a result of the

resulting tumultuous political environment, Smt. Indira Gandhi, the country's then-prime minister, declared a national emergency from 1975 to 1977 (Ministry of Finance, 1991). These outcomes also had a negative impact on the rise of defence spending, although India was able to maintain some progress in the development of her defence force thanks to USSR assistance offers, long-term financing, and delayed payment options. However, the allocation as a percentage of GDP began to decline once more in 1970–1971; however, after the War of 1971, it once more showed signs of growth in the years 1971–1972 and 1972–1973 at 3.23% and 3.18%, respectively. Unexpectedly, it began to gradually decline and remained around a value of less than 3% until 1982–1983. The authorities were forced to raise the budget to a higher level to 3.58% in 1986–1987 and a high 3.60% in 1987–1988 due to the urgent necessity to replace outdated weapon systems, equipment, fighters, etc. However, the mysterious drop started up again, and in 1996–1997, it reached its lowest level—2.27%—since 1962.

As neighboring nations expanded their military spending in the late 1970s, the security situation steadily grew worse. Between 1972 and 1979, Pakistan's army nearly doubled in size. India's defence spending nearly tripled between 1971 and 1979, going from Rs 11.99 billion in 1971 to Rs 33.56 billion in 1979–80. While it decreased from 22.73 percent in 1971–1972 to 17.19 percent in 1980–1981 as a percentage of CGE, it remained essentially steady as a proportion of GDP. The most worrying factor was the high rate of inflation because the increase in real terms was insufficient to maintain the necessary advancement (Sethi, 1995). India achieved her military dominance in South Asia during the war of 1971, which was a turning point in Indian history. India experienced its longest, comparatively tranquil period since independence from 1970–1971 to 1994–1995. India did not actively engage in any external aggression or war during this time. This time period is highly important since it saw an increase in military spending and effort—not because of a war or outside aggression, but rather because of threats to domestic security and low-intensity conflicts sponsored by the enemy.

Additionally, for India to portray itself as a regional force on the Indian subcontinent, it needed to build up its defenses adequately. The growing dangers to and difficulties with internal security is another feature of this time period. India strove to improve its economic capability during this time because Indian planners realized that growth and defence are not mutually exclusive but rather complementary. This time period is especially notable for the rapid changes in the global scene and the global order (Athawale, 1991).



## C. The period between 1990 to 2020

By the fiscal year 1990–1991 the Indian economy, which had been struggling greatly throughout the 1980s, had gotten worse. In the ten years between 1988 and 1997, the GDP fell by 1.5%, yet the security situation remained mostly same. The allocations dramatically increased following the Kargil invasion. Defence spending, however, remained at a paltry 2.3% of GDP in percentage terms (Mohan, 2004). In 1990, defence spending fell once more and amounted to less than 3%. Before the Kargil War, it had a value of 2.47 percent. Defence spending increased from Rs 412.00 billion to Rs 456.94 billion in 1999 at an increase rate of 10.91%, and it increased from Rs 1056.00 billion to Rs 1417.03 billion between 2008 and 2009 at a growth rate of 34.19 percent. The typical increase in military spending had been a major effect of the strike in November 2008.

The rise in military operations in the Gulf, Afghanistan, and Pakistan, the escalation of regional tensions, sectarian violence under the direct control of the armed forces, the upgrading of Indian military doctrine, which was completed in 2003, and the upgrading of Indian military nuclear doctrine could all have contributed to this rise between 1998 and 2019 (Chapman, 2009). However, from 1987 to 2019–20, defence spending as a percentage of GDP exhibited a declining trend, falling from 3.60 to 1.50 percent. In the 21st century, India's defence spending as a percentage of GDP has varied around 2%.

**Table 2: India: Defence Expenditure Statistics**

Years	DE (bn. Rs)	% change in DE	DE/ GDP (%)	DE/CGE (%)
1961-62	2.90	-	1.61	19.63
1962-63	4.74	63.45	2.46	20.14
1963-64	8.16	72.15	3.71	25.45
1964-65	8.06	-1.22	3.14	23.1
1965-66	8.85	9.8	3.29	22.46
1966-67	9.09	2.71	2.97	20.39
1967-68	9.68	6.49	2.69	21.53
1968-69	10.33	6.71	2.72	22.82
1969-70	11.01	6.58	2.64	22.35
1970-71	11.99	8.9	2.70	21.32
1971-72	15.25	27.19	3.23	22.13

1972-73	16.52	8.33	3.18	21.03
1973-74	16.81	1.75	2.64	20.46
1974-75	21.12	25.64	2.82	21.26
1975-76	24.72	17.04	3.11	19.97
1976-77	25.63	3.68	2.99	18.77
1977-78	26.34	2.77	2.69	16.99
1978-79	26.68	1.29	2.54	14.22
1979-80	33.56	25.79	2.93	17.69
1980-81	38.67	15.23	2.83	16.98
1981-82	46.52	20.29	2.90	18.41
1982-83	54.08	16.25	3.02	17.56
1983-84	63.09	16.66	3.01	17.75
1984-85	66.61	5.58	2.83	15.27
1985-86	79.87	19.91	3.04	15.16
1986-87	104.77	31.17	3.58	16.65
1987-88	119.67	14.22	3.60	17.53
1988-89	133.41	11.48	3.37	16.86
1989-90	144.16	8.06	3.16	15.52
1990-91	154.26	7.01	2.90	14.65
1991-92	163.47	5.97	2.66	14.67
1992-93	175.82	7.55	2.49	14.34
1993-94	218.45	24.25	2.67	15.39
1994-95	232.45	6.41	2.43	14.46
1995-96	268.56	15.53	2.40	15.06
1996-97	295.05	9.86	2.27	14.68
1997-98	361.86	22.64	2.50	15.2
1998-99	412.00	13.85	2.47	14.28
1999-00	456.94	10.91	2.46	15.79
2000-01	544.61	19.18	2.72	15.24
2001-02	620.00	13.84	2.85	14.98
2002-03	650.00	4.84	2.77	13.47

2003-04	653.00	0.46	2.49	12.75
2004-05	770.00	17.91	2.59	15.45
2005-06	830.00	7.79	2.45	16.41
2006-07	890.00	7.22	2.25	15.26
2007-08	960.00	7.87	2.09	13.47
2008-09	1056.00	10	1.99	11.95
2009-10	1417.03	34.19	2.32	13.83
2010-11	1473.44	3.98	2.03	12.31
2011-12	1644.15	11.58	1.88	12.6
2012-13	1934.07	17.63	1.94	13.71
2013-14	2036.72	5.31	1.81	13.06
2014-15	2290	12.44	1.84	13.76
2015-16	2467.27	7.74	1.79	13.78
2016-17	2490.99	0.96	1.63	12.61
2017-18	2623.89	5.33	1.53	12.25
2018-19	2793.05	6.47	1.47	12.06
2019-20	3052.96	9.31	1.50	11.31

**Source: Defence Expenditure Statistics (DES), Ministry of Finance, Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

Table 2 illustrates that India's defence spending has increased on average from 1961 to 2019. It shows how India's defence budget has increased consistently throughout time. India's defence spending increased from 1961 to 2019, going from Rs 2.90 billion to Rs 3052.96 billion, a more than two-fold increase from 1961 to 2019. As a result, defence spending demonstrates a significant and abrupt increase that wasn't consistent. The most significant change seen in Table 2 is the increase in defence spending that occurred during times of conflict. These are the top 5 increases in defence spending.

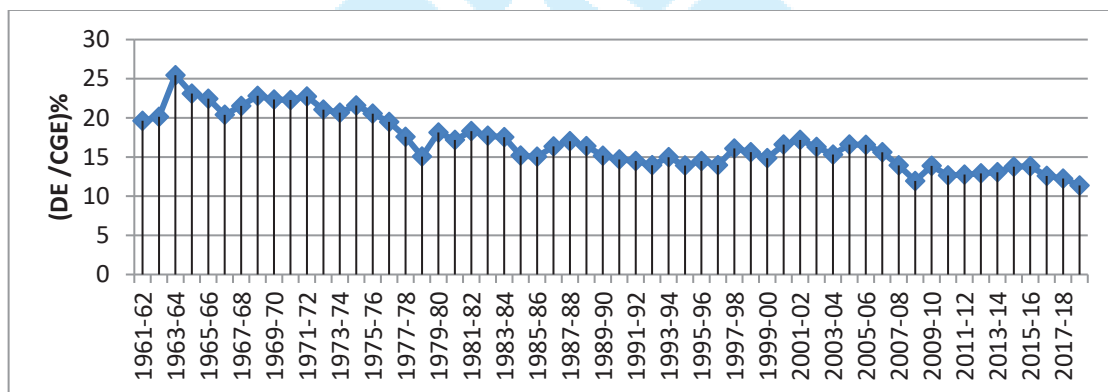
- a. There was a 63.45% increase in defence spending from Rs 2.90 billion in 1961 to Rs 4.74 billion in 1962.
- b. Following the Indo-China War in 1962, defence spending increased by 72.15 percent, from Rs. 4.74 billion in 1962 to Rs. 8.16 billion in 1963.

- c. As a result of Bangladesh's liberation, defence spending jumped from Rs. 11.99 billion to Rs. 15.25 billion between 1970 and 1971, a 27.18% rise.
- d. As a result of the Kargil War between India and Pakistan, defence spending increased from Rs 412 billion in 1998 to Rs 456.94 billion in 1999, a rise of 10.91 percent.
- e. As a last point, the defence budget increased by 34.19% from Rs. 1056.00 billion in 2008 to Rs. 1417.03 billion in 2009. A significant aftereffect of the November 2008 Mumbai attack has been a steady, high rise in India's defence spending in absolute terms.

**D. Defence Expenditure as Proportion of the Central Government Expenditure**

The proportion of defence spending to all central governments’ spending (CGE) is a crucial statistic for determining the trend of India's defence spending. Only the central government in India makes defence purchases; state governments do not. Therefore, it is essential to consider defence spending as a percentage of total government spending or central government spending (CGE) in any analysis of defence spending. Figure 1 demonstrates that, on average, over the study period, defence spending stayed about 15% of total central government spending.

**Figure 1: Indian Defence Expenditure as Percentage of Central Government Expenditure**



**Source: Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

It reached a maximum of 25% in 1963–1964 and a minimum of 11.37% in 2018–19. While it showed a mixed trend from 1961 to 2018, the ratio has primarily shown a decreasing trend in recent years. Up until about 1980–81, the government allocated more than 18% of the total central government expenditures (CGE) to defence. After that, it decreased to an average of 14% throughout the course of the subsequent ten years, as is seen in figure 1. Table 3 provides information on the central government's overall expenditures by sectors, which include defence, education, health, housing, and transportation & communications (T&C) spending. In terms of central government spending, India's defence industry received the largest portion.

The defence percentage of total central government spending from 1995 to 2015 was virtually always higher than 14%. The average share from 1995 to 2000 was significantly greater, coming in at 14.92%. In the years 2000–2005, the average defence share climbed slightly to 14.96 percent, but between the years 2005–10 and 2010–15, it decreased further, from 14.38 percent to 13.03 percent, and it continued to decline after 2015.

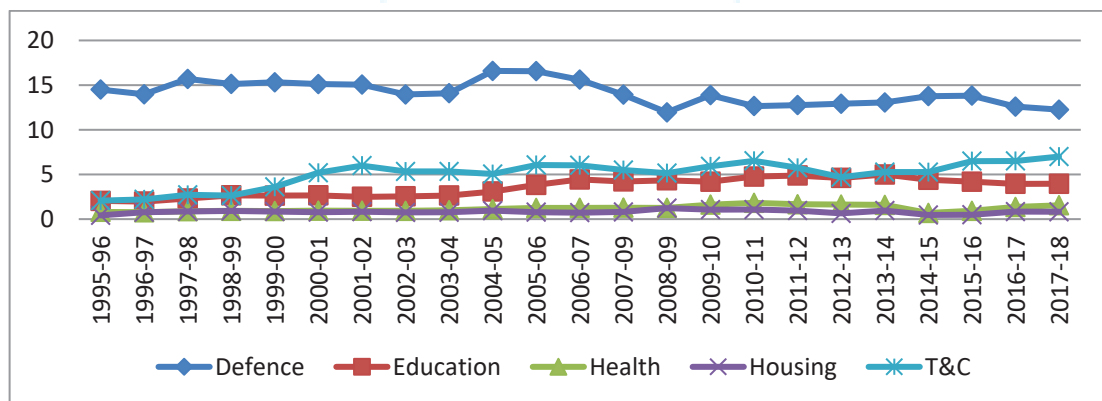
**Table 3: India’s Central Government Expenditure Share by Function 1995-2017 (Five Year Average % of Total CGE)**

Years	Defence	Education	Health	Housing	T&C
1995-00	14.92	2.32	0.86	0.76	2.65
2000-05	14.96	2.67	0.99	0.82	5.38
2005-10	14.38	4.24	1.33	0.92	5.73
2010-15	13.03	4.73	1.48	0.8	5.51
2015-16	13.82	4.19	0.93	0.49	6.49
2016-17	12.59	3.95	1.36	0.84	6.51
2017-18	12.25	3.96	1.55	0.82	7.00

**Source: Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

Note: Education=Education, art and culture; Health= Medical, public health, sanitation and water supply; T&C= Transport and Communication

**Figure 2: India’s Central Government Expenditure Share by Sectors 1995-2017**



**Source: Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

From 1995 to 2015, the percentage of the education sector expanded from roughly 2% to over 4%. Due to several government-initiated programs, the education share increased after 2006–2007 by

about 4%. Additionally, during the specified period, the shares of health and transport & communication rose from 0.86 percent to 1.48 percent and from 2.65 percent to 5.51 percent, respectively, of CGE. However, the percentage of housing showed an upward trend from 2005 to 2010, after which it started to decline, but overall it was less than 1% of CGE. Therefore, it is evident from the comparative analysis above that a larger portion of CGE is allocated to defence spending, demonstrating the government of India's priority for the defence industry. India continues to be committed to peace and security, which are seen as crucial components for the Indian people's continued economic progress and prosperity, despite its focus on social and economic development (Hou, 2009). India may spend more on defence if the GDP continues to develop at a faster rate, but spending on other areas such as education, health, housing, and transportation and communication must be balanced.

Numerous endogenous growth theories contend that government spending significantly affects the long-run growth rate of the economy. Additionally, its impact is dependent on two factors: first, the extent of state involvement, and second, the various categories of public expenditure. In addition, public goods that have a positive effect on the economic process include infrastructure, research and development, health, and education (Ram, 1986; Aschauer, 1989; and Barro, 1990). However, the need for securities still compels the government to allocate a sizable portion of their national budget to the defence industry. As stated by Fatah and Salihoglu (2016), the trend of defence spending varies according to the country's safety concerns and needs for resolving both domestic and external problems. The most significant factor determining military spending is the potential external threat, according to Landau (1993); after all, a country's location affects its decisions about defence spending. Academics and decision-makers are very concerned about the effects of defence spending on India's overall economic growth as a result of these difficulties.

## **E. Composition of India's Defence Expenditure: As Compound Annual Growth Rate**

Revenue and capital expenses make up the Indian government's defence budget. In contrast to the Capital Defence Expenditure Budget, which covers infrastructure as well as the purchase of land, armaments, and other defense-related equipment, the Revenue Defence Expenditure Budget covers the Defence Force's daily operating costs, with salaries and wages for Defence Force personnel accounting for about half of this budget. Table 4 and figure 3 show the composition of defence spending from 1985–1986 to 2019–20, while Table 5 and figure 4 show the compound annual growth rate of the Indian government's defence spending and its components.



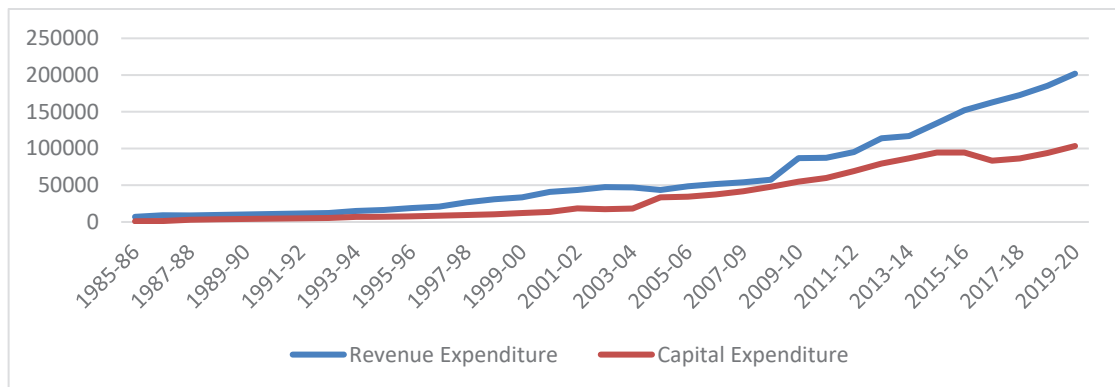
**Table 4: Composition of Defence Expenditure**

<b>Years</b>	<b>Revenue Expenditure (In Crore Rupees)</b>	<b>Capital Expenditure (In Crore Rupees)</b>	<b>Total Defence Expenditure (In Crore Rupees)</b>
<b>1985-86</b>	7020.13	967.36	7987
<b>1990-91</b>	10874.13	4552.35	15426
<b>1995-96</b>	18841.24	8015.05	26856
<b>2000-01</b>	40845.75	13615.25	54461
<b>2005-06</b>	48625	34375	83000
<b>2010-11</b>	87344	60000	147344
<b>2014-15</b>	140404.8	81965.2	222370
<b>2019-20</b>	201902	103394	305296

**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

The important components of defence spending are outlined in Table 4. The amount spent on defence more than doubled from Rs 7987 crore in 1985–86 to Rs 15426 crore in 1990–91. Due to an increase in revenue spending, the cost of defence increased throughout the entire time. During the entire time span, both revenue and capital expenditures increased. The aforementioned Table 4 makes clear that overall defence spending is higher than capital spending. In 2005–06, defence spending was recorded as Rs 83000 crore. Capital spending increased from Rs 967 crore in 1985-86 to Rs 34375 crore in 2005-06, while revenue expenditure increased from Rs 7020.13 crore in 1985-86 to Rs 48625 crore.

**Figure 3: Composition of Revenue and Capital Expenditure**



**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

**Table 5: Compound Annual Growth Rate of Indian Defence Expenditure and Its Components**

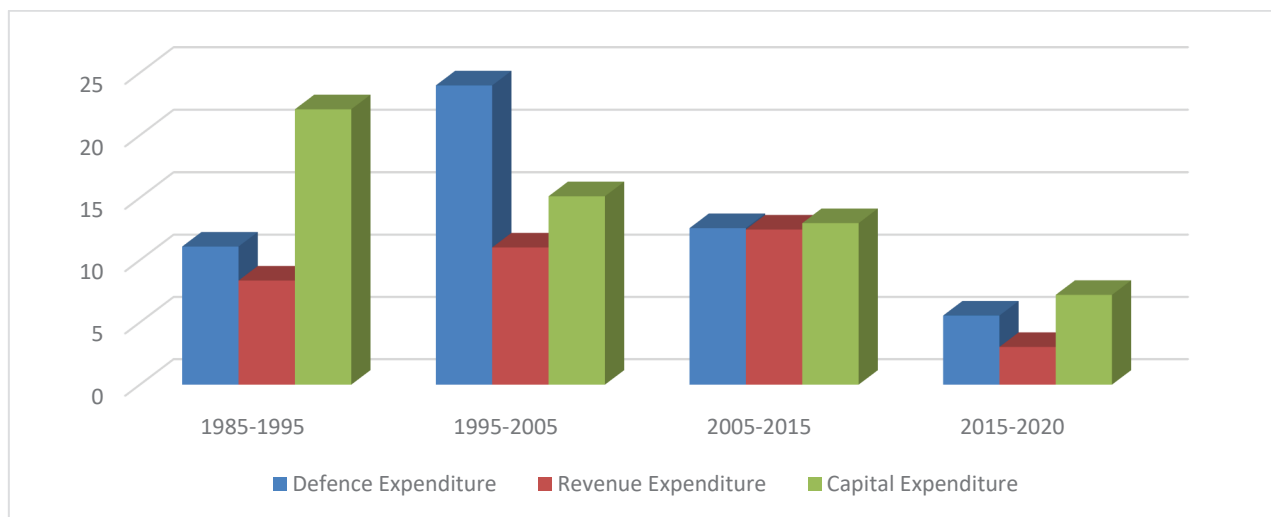
Year	Whole period 1985-2020 (in percentage)	1985-1995 (in percentage)	1995-2005 (in percentage)	2005-2015 (in percentage)	2015-2020 (in percentage)
Defence Expenditure	11.47	11.09	23.99	12.57	5.55
Revenue Expenditure	10.50	8.36	11.02	12.46	3.03
Capital Expenditure	13.62	22.08	15.12	12.97	7.21

**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

The Indian government's spending on defence increased significantly between 1985 and 1995, growing by 11.09 percent. This sudden rise in defence spending was mostly brought on by an increase in capital spending, which has grown by 22.08 percent over the same ten-year period. On the other hand, from 1985 to 1995, revenue expenditure climbed at an average annual rate of 8.36 percent. Revenue expenditures increased by as much as 11.02% between 1995 and

2005, which can be attributed to inflation. The capital expenditure, which was 15.12% annually, however, exhibited a declining tendency. When comparing the years 2005 to 2015 to the years 1995 to 2005, revenue spending showed an upward trend, but capital expenditure showed a downward growth trend. While capital expenditures exhibited a constant falling growth rate, revenue expenditures showed a continuous increasing growth rate, as seen in Figure 4. However, for the entire period 1985–2020, capital expenditures experienced the highest growth rate—13.62%—while revenue expenditures only saw a 10.50% increase.

**Figure 4: Compound Annual Growth Rates of Indian Defence Expenditure and Its Components**



**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

#### **F. Service-wise Composition of Defense Expenditure**

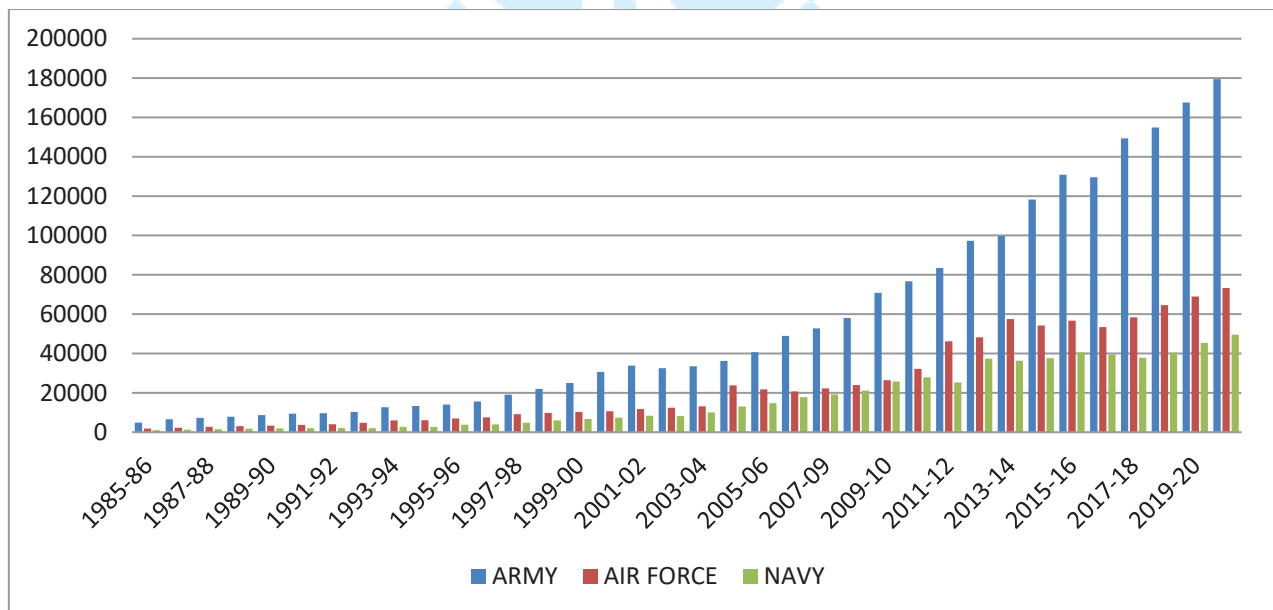
The composition of defence spending by services is shown in Table 6. It is evident that only the army received an impressive increase in its share of defence spending, with the air force and navy following. The Army received the largest portion of the 2019–20 budgets, with an estimated allocation of Rs. 171023 crore. The Air Force came in second with Rs. 68949 crore, and the Navy came in third with Rs. 45368 crore.

**Table 6: Services-Wise Composition of Defence Expenditure**

YEAR	ARMY (in crore rupees)	AIR FORCE (in crore rupees)	NAVY (in crore rupees)
1985-86	4873.66	1861.35	1000.77
1990-91	9418	3730	1978
1995-96	14083.93	6931.28	3979.48
2000-01	30649	10610	7384
2005-06	40669	21808	14808
2010-11	76698	32198	27890.4
2014-15	118231	54262	37627
2019-20	171023	68949	45368

**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

**Figure 5: Service-Wise Composition of Defence Expenditure**



**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

As can be observed from table 7, the Indian navy saw the biggest rise in defence services, followed by the air forces and army. Table 7 displays compound annual growth rates of defence expenditure for all three services.

**Table 7: Compound Annual Growth Rates of Indian Defence Expenditure for All Three Services**

Year/ SERVICES	Whole period 1985-2020 (in percentage)	1985-1995 (in percentage)	1995-2005 (in percentage)	2005-2015 (in percentage)	2015-2020 (in percentage)
ARMY	10.83	10.27	11.53	12.07	7.05
AIR FORCE	11.16	13.78	10.92	13.82	6.33
NAVY	12.39	10.12	13.82	11.08	4.38

**Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India and Indian Public Finance Statistics, Department of Economic Affairs (Various Years)**

The army's growth rate of defence spending climbed steadily from 10.27 percent to 11.53 percent annually between 1985 and 1995 and again between 2005 and 2015, when it increased to 12.07 percent. However, compared to the other services, Army spending shows a slower pace of growth for the entire period (1985-2020). Air force spending initially showed a trend towards decline from 13.78% to 10.92% in 1985-1995 to 1995-2005, but it then increased to 13.82% in 2005–15. The expenditure on the navy showed a 10.12% annual growth rate between 1985 and 1995. It rose to 13.8% between 1995 and 2005 before falling once more between 2005 and 2015. However, throughout the entire period of 1985 to 2020; it had the highest growth rate, at 12.39%, followed by army and air force spending.

The army's function continued practically unabated without any new problems of conventional and border conflict, and the transition from external threat to internal threat made it necessary for security investment to deflect more towards internal security. Additionally, the Air Force and Navy weren't given their fair share of the defence budget when it first came out, but later, after hasty technological changes in both forces and the incorporation of new technologies in these fields necessitated additional costs, they began receiving a larger share than they had before.

## VI. CONCLUSION AND RESULTS

During the study period (1961–2019), the trend in Indian defence spending changed. The top five military spenders in 2021, as reported by SIPRI, included the United States, China, India, the

United Kingdom, and Russia, and they accounted for 62% of global military spending. India, which spent \$76.6 billion, or 3.6% of global shares, was still ranked third among the top 5 countries. However, its defence spending has increased, rising from 2.6% of GDP in 2012 to 2.7% by 2021. The ongoing conflict over Kashmir with Pakistan and heightened border tensions with China were the main drivers of India's increased defence spending. Moreover, the five increases in defence spending were discovered to be related to India's external conflicts with China in 1962, 1965, 1971, and 1999 with Pakistan, as well as the significant aftermath from the Mumbai attack in November 2008. Prior to the Indo-China War in 1962, the Defence Burden (DB) (defence spending as a percentage of GDP) was at its lowest point at 1.61 percent at the start of 1961. The highest percentage was 3.71 percent in 1963, just following the Indo-China War.

During the years 1985 to 1990, the level of defence spending was above the 3% mark, but after 1990, it started to decline and eventually fell back to less than 3%. Prior to 2003–2004, defence spending as a percentage of GDP was more or less 2.5%, but after 2004–2005, it fell. Defence spending as a percentage of GDP decreased to fewer than 2% after 2011–12 fiscal years. The GDP performance was solid throughout the year, demonstrating that India's economic capacity to contribute more in several sectors, including defence, has increased. However, the defence sector, which previously received a significant amount of government funding, now receives a deducting proportion and is consequently more affordable in relative terms. In India, the defence sector received the largest share of CGE compared to the fields of education, health, housing, and transportation and communication. In comparison to Pakistan's spending, India's defence spending as a percentage of GDP has recently been lower, at 2.7 per cent. To manage the nation's internal security and rising tensions with its neighbors, defence spending should generally be increased. Higher domestic and foreign investment would result from the availability of a stable economic and political environment, which in turn supports economic growth. In comparison to revenue expenditure, India's capital defence spending is a smaller portion of its total defence spending. In order for the nation to address the growing risks and challenges to national security, it is necessary to invest in equipment modernization and the purchase of technology.

Therefore, it is necessary to shift more funds from revenue expenditure to capital expansion in order to promote economic growth. While capital defence expenditures are non-recurring and create assets and are therefore more productive, revenue defence expenditures are recurring and do not. To produce its own defensive equipment and reduce its reliance on foreign imports of weapons and ammunition, India must increase its capital defence spending. To maintain a tranquil



environment, which spurs economic growth by elevating investor confidence, both revenue and capital defence expenditures are important.

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