India's Defence Spending: A Trend Analysis

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India's defence budget is raised to Rs. 1,41,703 crores in 2009-10. This allocation is apart from Rs. 24,960 crores – that have been earmarked to defray civil expenditures of Ministry of Defence (MoD) and its affiliated organisations[1] – which, along with some other military-related expenditure, do not form part of India's official defence budget. This in turn suggests that India's actual military budget is higher than what the official budget suggests. Notwithstanding the difference between the actual and official budget figures, there are also a host of other issues associated with India's defence spending, such as where India's stands vis-à-vis other counties, priority of resource allocation for defence and the manner the defence budget is distributed among its various components.

In the above context, the paper makes an attempt to estimate India's total military expenditure. It then examines India's defence expenditure in the light of global and neighbourhood defence spending, and its own resource allocation for defence in relation to national resources. Lastly, the paper makes a trend analysis of the defence budget, its broad components and the inter-service and intra-service allocation. The trend analysis of the defence budget is however restricted to two decades up to 2008-09, because of the details the 2009-10 budget are awaited.

Estimating India's Total Military Expenditure

The Ministry of Defence (MoD) publishes India's defence allocations in a document known as *Defence Services Estimates* (DSE). The DSE, which is commonly known as India's defence budget, provides allocations, both on revenue and capital heads,[2] for the Defence Services, which include three Armed Forces (i.e., the Army, the Navy and the Air Force), the Defence Research and Development Organisation (DRDO), and the Ordnance Factories (OFs). These allocations are made on a number of Demands for Grants. The 2008-09 defence budget has the following six Demands for Grants:[3]

- Demand No. 21 – Defence Services, Army
- Demand No. 22 – Defence Services, Navy
- Demand No. 23 – Defence Services, Air Force
- Demand No. 24 – Defence Ordnance Factories
- Demand No. 25 – Defence Services Research and Development

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- Demand No. 26 – Capital Outlay on Defence Services

The above Demands for Grants accounts for Rs. 1,05,600 crores in 2008-09. However, the above Grants do not include some other allocations, which organisations like Stockholm International Peace Research Institute (SIPRI) include while estimating India's total military expenditure. To the extent these estimates vary can be seen that while SIPRI's estimate for 2007 was Rs. 1193 billion that of DSE was nearly 22 per cent less at Rs. 925 billion.[4] The variation is because India's official defence budget does not factor in the Ministry of Defence's 'civil' allocations, defence pension, allocations on account of para-military forces and military-related nuclear activities, some of which go into SIPRI's estimation. While the government publishes regular information on the first two, there is much secrecy, especially on the military-related nuclear fronts. However, according to some nearly one-third of the Department of Atomic Energy's "budget goes into [nuclear] warhead production and research."[5] Addition up all these heads, the actual budget is much higher than is published by the government. The following table tries to capture the actual defence budget for the year 2008-09. As the figures show, the actual budget could be as much as 27 per cent higher than the official budget.

Table 1: Components of India's Actual Defence Budget and Amount, 2008-09

Components	Rs. (in Crore)
Official defence budget	1,05,600
Nuclear forces	1,300
Paramilitary forces	7,632
Paramilitary housing	555
Border fencing	608
Border infrastructure	504
Defence pensions	15,564
MoD (civil estimate)	2,370
Total	1,34,133

Source: Ajai Shukla, "*How much is the defence budget?*" Business Standard, March 11, 2008

The above exercise of estimating all heads of expenditure may not be significant for country's defence preparedness, but is relevant from the point of view resource

allocations. At the same time, the actual total expenditure clarifies misperceptions about how much the country spends on its defence. If the above total figure is taken, this represents nearly 2.5 per cent of the GDP – a percentage share which may look impressive for a developing country like India.

India's Defence Expenditure: Global and Neighborhood Perspectives

When it comes to defence, India is one of the leading spenders in the world. In last 10 years, the annual average growth of India's real military spending is nearly 5 per cent –a half a percentage point higher than the global average during the same period.[6] According to SIPRI India's military spending in 2007 is the 10th highest in the world in market exchange rate (MER) dollar terms and the 4th highest in terms of Purchasing Power Parity (PPP).[7] The 2007 data of SIPRI puts India's real military expenditure at US$ 24.25 billion.[8] In absolute terms, India's military expenditure is however smaller in comparison to other big spenders, especially in regard to the US$ 547 billion, which makes America not only the largest military spender in the world but responsible for nearly half of global military spending. India's comparatively smaller military budget can be ascribed, among others, to its relatively smaller size of economy.[9] Nonetheless, India spends a higher percentage of its national resources for the military purpose. Except for Saudi Arabia, US and Russia, India' military expenditure as a percentage of GDP is the highest among the rest top-10 military spenders (see Table 2).

While examining India's military expenditure from the global perspective, one noticeable aspect that come into picture is related to per capita spending of leading spenders. On this account, India scores little. Compared to 2007 global average of per capita military spending of US$ 183, India spends only US$ 21. This is obviously to do with the huge population of the country. China, which ranks third in MER dollar terms, and second in PPP terms, also faces similar low per capita spending (see Table 2).

India's absolute military budget and per capita spending may be smaller than those of the US, the UK and other big spenders, but in comparison to its neighbours it remains quite significant. Except for Chinese military expenditure, India's remains so far the largest in its neighbourhood. In fact, India's 2006 military expenditure is nearly four times bigger than total expenditures of Bangladesh, Pakistan, Nepal and Sri Lanka.[10] For India's point of view, however, the expenditures of Pakistan and China remain relevant because of the obvious reasons.

Chinese military expenditure has always been a source of debate, primary on account of the secrecy of its actual spending, the magnitude of growth over the past

Table 2: Ten Countries with Highest Military Expenditure in 2007
[Constant (2005) US $]

Military expenditure in MER dollar terms						Military expenditure in PPP terms		
Rank	Country	Spending ($ b.)	World Share (%)	Spending per capita ($)	% of GDP, 2006	Rank	Country	Spending ($ b.)
1	USA	547	45	1799	4.0	1	USA	547
2	UK	59.7	5	995	2.6	2	China	[140]
3	China	[58.3]	[5]	[44]	2.1	3	Russia	[78.8]
4	France	53.6	4	880	2.4	4	India	72.7
5	Japan	43.6	4	339	1.0	5	UK	54.7
6	Germany	36.9	3	447	1.3	6	Saudi Arabia	52.8
7	Russia	[35.4]	[3]	[249]	3.6	7	France	47.9
8	Saudi Arabia	33.8	3	1310	8.5	8	Japan	37.0
9	Italy	33.1	3	568	1.8	9	Germany	33.0
10	India	24.2	2	21	2.7	10	Italy	29.6
World		1214	100	183	2.5			

Note: [ ] denotes estimated figure.
Source: Adapted from Table 5.2 of *SIPRI Yearbook 2008*: *Armaments, Disarmaments and International Security*, Oxford University Press: Oxford, pp. 178, 2008.

decade or so, and its larger strategic implications. According to official source, China's defence budget reached 417.769 billion Yuan (US$ 57.23 billion) in 2008.[11] However, many believe that China "under-reports its defence expenditure". The US Department of Defence (DoD), for instance, says China's actual military spending is about two to three times more than its official budget. To make the difference obvious, the Pentagon in a report to Congress cites that "China's total military-related spending for 2007 could be between $97 billion and $139 billion," in comparison to its revised official budget of US$ 45.99 billion.[12] The huge variation between Chinese official figures and those of the others is due to lack of transparency and details about off-budget military-related expenditures.[13] As the *Military Balance 2006* reports, the Chinese official budget does not reveal expenditures on account of the following:[14]

- Procurement of weapons from abroad;
- State subsidies to the defence industry;
- Some Research and Development (R&D) programmes;
- Funding of para-militaries.

Notwithstanding the secrecy surrounding China's actual military spending, Beijing has enhanced significantly its defence budget. In last 15 years, from 1993 to 2008, the official budget, in nominal terms, has been increased by nearly 10 times. In real terms also, Chinese defence budget has witnessed rapid growth. During the period 1996-2006, China's military budget (inflation adjusted) witnessed an average annual growth of 11.8 per cent, against 9.2 per cent average annual growth of real GDP.[15]

The continuous growth in Chinese military spending has resulted in rapid progress in its military capability, which has taken even the major powers by surprise. If the 2007 anti-satellite test (ASAT) by China was an eye-opener for the international community, its acquisition of intercontinental-range missiles along with anti-access/area denial capabilities (such as advanced cruise missiles, medium-range ballistic missiles, anti-ship ballistic missiles, etc) have transformed its conventional battlefield into space and cyber-space domains, much beyond its immediate neighbourhood.

Pakistan's official military budget in absolute terms is far smaller than India's. The 2008 budget of Pakistan puts the figure at PKR 296.1 billion (US$ 4.4 billion).[16] However, like China's, there are some military-related heads of expenditure which do not form Pakistan's official defence budget, thus making the actual defence spending "substantially" higher than the official budget indicates.[17] From India's point of view, what is worrisome is the military aid that Pakistan receives as a part of its support to war on terror, but uses for "preparing for war against India."[18] Between the period 2002 and 2008, Pakistan has received nearly US$ 12 billion worth of "direct overt US aid and military reimbursements" from the US to support the ongoing "War on Terror."[19]

India's Defence Expenditure: Perspective of Resource Allocation

Low allocation for defence has often been cited by many analysts as one of the primary reasons for India's lack of defence preparedness, leading to its defeat with China in 1962.[20] In fact, the average defence allocations between 1950-51 and 1961-62 accounted for 1.87 per cent of GDP. However, in the aftermath of Chinese

aggression, allocations were substantially increased, with the defence budget rising to an all time high of 3.81 per cent in 1963-64. However, a historical analysis of allocations since independence reveals that except for three years each in 1960s and late 1980s and two years in early 1970s, the defence expenditure has remained below 3 per cent of GDP. Moreover, the defence allocations have even gone below two per cent of GDP as recently in 2007-08 and 2008-09 (see Table-3). This has evoked concerns among many, including the Parliamentary committee, which recommend to the government to provide "a minimum 3 per cent of GDP" to fulfil, among others, "the need based requirements of the Defence Forces."[21]

Table 3: Defence Expenditure as Per cent of GDP and Central Government Expenditure

Year	Defence Exp as % of GDP	Defence Exp as % of Central Govt. Exp
1989-90	2.97	15.52
1990-91	2.27	14.65
1995-96	2.25	15.06
2000-01	2.36	15.24
2005-06	2.25 (P)	15.91
2006-07	2.06 (Q)	14.64
2007-08 (RE)	1.97 (A)	13.04
2008-09 (BE)	1.99*	14.06

Note: RE: Revised Estimate; BE: Budget Estimate; P: Provisional; Q: Quick Estimate; A: Advance Estimate; *: Projected by CSO as per Ministry of Finance's Budget at a Glance.
Source: 29th Report of the Standing Committee on Defence of 14th Lok Sabha, Demands for Grants (2008-09

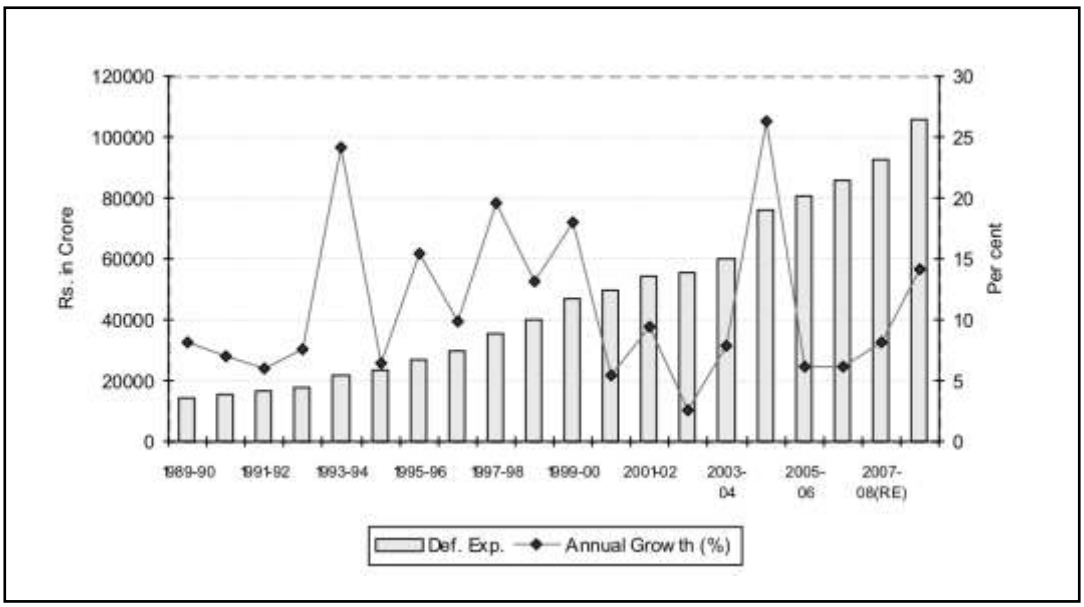
While it is indisputable that the Defence Services need to be adequately funded (considering the looming security threats to the country), and higher percentage of GDP would lead to that, the question is whether defence's declining share in national output implies the government's shifting priority of resource allocation. Considering that, the defence budget is being completely funded by the Union Government, the former Share in total Central Government Expenditure (CGE) shows government's intention as far as resource allocation is concerned. As the above table shows, the share of defence in CGE in last 20 years does not reveal a clear

declining trend, rather some fluctuations, with the share of defence accounting for about one-sevenths of CGE for most of the years. In other words, the defence continues to get the same priority in the allocation of government's resources. Moreover, a demand-supply analysis of resource reveals that the MoD's demands are being increasing funded by the Ministry of Finance (MoF). For instance, in last six years (2003-04 to 2008-09), the resource gap (between projections by MoD and allocations by MoF) in percentage terms has sharply declined from nearly 27 per cent to under 6 per cent.[22]

India's Defence Expenditure: Revenue and Capital Expenditures

Indian defence spending in last twenty years between 1989-90 and 2008-09 (BE) has increased substantially, from Rs. 14,416.17 to Rs. 1,05,600 crores. This represents average annual growth of 11.5 per cent. The growth of India's defence expenditure is however not so even. The highest annual growth was recorded in 2004-05 when the expenditure was increased by Rs. 15,790.12 crores, representing a growth of over 25 per cent. The lowest growth in absolute terms was in 1991-92 with an annual increment of Rs. 920.56 crores. In percentage terms, the lowest growth was in 2002-03 when spending was increased by merely 2.57 per cent (see Figure 1).

Figure 1: India's Defence Expenditure and Annual Growth (%)



Source: Figure prepared by author from the data provided in *Defence Services Estimates* (relevant years)

As mentioned earlier, India's defence budget is broadly categorised under Revenue Expenditure and Capital Expenditure.[23] Historically revenue expenditure accounts for a bulk of defence budget, though its share has come down significantly in recent years (see Table 4), especially since 2004-05, when the share of capital expenditure was increased to over 42 per cent from less than 29 per cent a year before.

Table 4: Revenue and Capital Expenditures and their Percentage Shares in Defence Expenditure/Outlays

Financial Year	Revenue Expenditure (Rs. Crore)	Capital Expenditure (Rs. Crore)	Share of Rev. Exp (%)	Share of Cap. Exp (%)
1989-90	10194.4	4221.77	70.7	29.3
1990-91	10874.13	4552.35	70.5	29.5
1995-96	18841.24	8015.05	70.2	29.8
2000-01	37237.99	12384.05	75.0	25.0
2005-06	48211.11	32337.87	59.9	40.1
2006-07	51668.84	33825.8	60.4	39.6
2007-08(RE)	54795	37705	59.2	40.8
2008-09 (BE)	57593	48007	54.5	45.5

Note: RE= revised estimate; BE= budget estimate

Source: *Defence Services Estimates* (relevant years)

The increase in share of capital expenditure is primarily due to the increase in 'Capital Acquisition' budget in view of the ongoing modernisation of the Armed Forces. The Capital Acquisition budget, which lies mostly in the range of 75-85 per cent of the total capital expenditure, has increased by nearly four-fold in last one decade to nearly Rs. 37,500 crores in 2008-09 (BE).[24] The substantial increase in the capital acquisition budget has led to some big-ticket arms order from diverse sources (see Table 5). However, a closer look at arms acquisition reveals that the Air Force and the Navy have given more priority, in comparison to the Army.

Table 5: Major Indian Arms Orders (2004-08)
Awaiting Delivery or Completion of Delivery

Equipment	Service	Supplier	Quantity	Cost (US $ billion)	Order
T-90 main battle tank	Army	Russia	347	1.2	2007
Scorpene submarines	Navy	France	6	3.5	2005
Vikramaditya aircraft carrier	Navy	Russia	1	2.7-3.0	2004
P-8i surveillance aircraft	Navy	US	8	2.1	2008
Advanced Talwar frigates	Navy	Russia	3	1.5	2006
Su-30 MKI combat aircraft	Air Force	Russia	40	1.6	2007
Hawk advanced jet trainer aircraft	Air Force	UK	66	1.45	2004
M-i-17 medium-lift helicopter	Air Force	Russia	80	1.0	2008

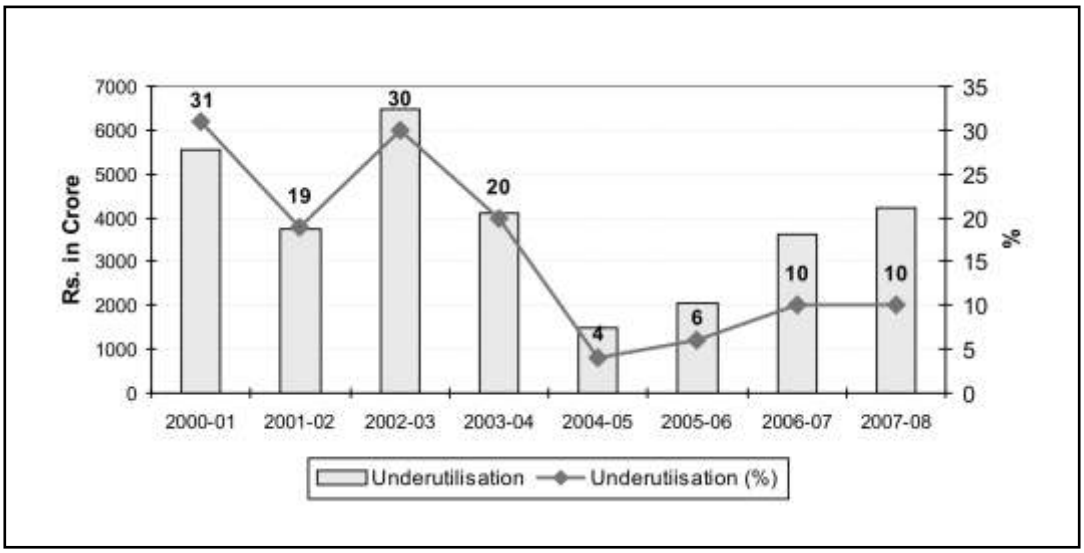
Source: IISS, "*India arms for the future*," Strategic Comments, Vol. 15, Issue 1, February 2009.

Underutilisation of Resources: The Problem in Acquisition Process

Though the defence establishment has been able to get more and more resources each year, yet it has no been able to spend those resources in stipulated timeframe. This has lead the MoF to reduce allocations at the revised or final stage. For instance, the budget estimate for the year 2007-08 was Rs. 96,000 crores, which was then reduced to Rs. 92,500 crore at the revised stage – a reduction of Rs. 3,500 crores. An examination of budget reveals that the problem lies more in the capital component. The capital expenditure for 2007-08, which was budgeted at Rs. 41,922 crores, came down to Rs. 37,705 crores at the revised stage – a reduction of Rs. 4217 crores. The overall shortfall in the defence budget was however partially offset by an increase of Rs. 717 crores in the revenue expenditure. Nonetheless, the problem of under spending seems to be perennial and across the Services. In last eight years, the underutilisation of capital budget ranges from Rs. 1490 crores to Rs. 6, 500 crores, or 4-31 per cent of total budgeted capital expenditure (see Figure-2 and Annexure-I). This underscores the problems in the acquisition process.

Utilisation of allocated funds timely and, more importantly, efficiently is one of the foremost challenges for the MoD, considering successive DPP's (Defence Procurement Procedure) aim to "ensure expeditious procurement of the approved requirements of the Armed Forces.[25] The DPPs, especially the 2006 and 2008 versions have tired to address some of the problems facing the acquisition system.

Figure 2: Underutilisation of Capital Budget and its Percentage



Source: Figure prepared by author from the data provided in *Defence Services Estimates* (relevant years).

The DPP 2008, for instance, has tried to make procurement "more transparent and impartial" by way of strengthening the trial and oversight mechanisms. However, these measure are partial and do not address the entire spectrum of acquisition system, starting from the planning process, which continues to be deficient in many ways, thus leading to *ad hocism*.[26]

While examining the capital acquisition process of the Army, the Comptroller and Auditor General (C&AG) of India has identified a number of weaknesses. Though the report pertains to the Army, it can be generalised to the entire Defence Services, considering the structure and procedures guiding capital procurement are nearly same for all the Services. The following summarises the important points made in the Report:[27]

- Delay in approval in plans;
- Deficiency in formulation of General Staff Qualitative Requirements (GSQR);
- Inadequate vendor identification;
- Lack of objectivity and fair play in technical evaluation;
- Large number of submission points;
- Multiple agencies with dispersed centres of accountability.

Commenting on the above, the C&AG says "defence acquisition is a cross-disciplinary

activity requiring expertise in technology, military, finance, quality assurance, market research, contract management, project management, administration and policy making." These elements are clearly found missing in one centralised organisation, which the GOM (Group of Ministers) in April 2000 had recommended to set up. On the other hand, elements of acquisition are undertaken by separate bodies: planning by the SHQs/IDS; QR formulation by SHQs/IDS; Trial and (evaluation) by SHQs; contract negotiation by Acquisition Wing of MoD, etc. Though there is super structure in the form of Defence Acquisition Council (DAC) which guides the entire acquisition process, Council is however, seems to be handicapped on the account of guiding each and every process involved.

Inter-Services Allocations

Historically, bulk of defence budget is accounted for by the Army, though its share has decreased over the years. In 2008-09, the Army accounts for 48.3 per cent of total defence outlays, followed by the Air Force (28.9 per cent), and the Navy (18.5 per cent) (see Table 6).[28]

Table 6: Share of Services in Defence Budget

Year	Army (Rs. Crore)	Navy (Rs. Crore)	Air Force (Rs. Crore)	Share of Army (%)	Share of Navy (%)	Share of Air Force (%)
1989-90	8598.08	1949.98	3325.27	59.6	13.5	23.1
1990-91	9275.08	1963.33	3712.20	60.1	12.7	24.1
1995-96	15388.50	3797.48	6931.28	57.3	14.1	25.8
2000-01	30649.25	7384.67	10611.09	61.8	14.9	21.4
2005-06	39791.23	13966.99	21703.92	49.4	17.3	26.9
2006-07	41123.17	16322.24	24691.79	48.1	19.1	28.9
2007-08(RE)	46994.71	16118.24	25057.70	50.8	17.4	27.1
2008-09(BE)	51009.73	19588.63	30560.28	48.3	18.5	28.9

Source: *Defence Services Estimate*s (relevant years)

The land-centric defence budget is due primarily to the sheer strength of Army's manpower that clearly tilts the budget, especially the revenue part to its favour (of approximately 1.3 million active defence forces, Army's strength is nearly 1.1 million, followed by Air Force's 1,40, 000 and Navy's 55,000).[29]

In absolute terms, the three Services over the last 20 years, have witnessed hefty

increase in their revenue expenditure. However, in percentage terms, the shares of Services in total revenue budget have moved in different directions. While the Army's share has decreased in this period, the Navy's share has increased in highest percentage point terms. The Air Force's revenue expenditure has almost remained constant in the range of 18-20 per cent. Of the total revenue budget for 2008-09, Army accounts for 65.4 per cent, compared to Air Force's 19.6 per cent and Navy's 13.0 per cent (see Table 7).

Among the minor heads under revenue expenditure, Pay and Allowances, Stores of the three Services account for nearly 75-80 per cent of total revenue expenditure. Of these two minor heads, the percentage of share of the Army has been decreasing, though in different degrees, over last 20 years. On the other hand, the Navy's share in these two has increased. In the case of Stores, Navy's share has increased from 8.2 per cent in 1989-90 to more than 15 per cent in 2008-09 (BE) (see Table 8). This partially explains the declining share of the Army in both revenue expenditure and defence expenditure.

Table 7: Share of Services in Total Revenue Expenditure

Year	Army (Rs. Crore)	Navy (Rs. Crore)	Air Force (Rs. Crore)	Share of Army (%)	Share of Navy (%)	Share of Air Force (%)
1989-90	7389.24	815.38	1879.18	72.5	8.0	18.4
1990-91	7903.73	836.53	2078.65	72.7	7.7	19.1
1995-96	12936.16	1819.89	3907.50	68.7	9.7	20.7
2000-01	26358.68	3643.24	7264.73	70.8	9.8	19.5
2005-06	30491.64	6162.97	9172.62	63.2	12.8	19.0
2006-07	33872.06	6836.53	10064.50	65.6	13.2	19.5
2007-08(RE)	35426.48	7174.05	10728.97	64.7	13.1	19.6
2008-09(BE)	37678.25	7503.05	11288.86	65.4	13.0	19.6

Source: *Defence Services Estimates* (relevant years)

Among the Services, Air Force is the most capital-intensive, accounting for nearly 40 per cent of total capital expenditure (in 2008-09), followed by the Army (27.8 per cent) and the Navy (25.2 per cent).[30] In absolute terms, though all the Services have increased their capital expenditure in last 20 years, the Navy is so far the most consistent in its share of allocation. The Air Force though has seen the share of its capital expenditure growing over the years, its share along with the Army's is more

Table 8: Distribution of Minor Heads under Revenue Expenditure among Services (%)

Year	Pay & Allow (%)			Transportation (%)			Stores (%)			Works (%)		
	Army	Navy	AF	Army	Navy	AF	Army	Navy	AF	Army	Navy	AF
1989-90	80.1	7.1	12.8	70.5	15.9	13.6	64.8	8.2	2.7	67.3	10.5	22.2
1990-91	79.5	7.3	13.1	77.7	8.6	13.7	65.0	7.6	2.7	65.5	11.9	22.6
1995-96	78.6	7.9	13.5	71.0	9.9	19.1	56.2	10.3	3.3	69.5	11.4	19.1
2000-01	77.6	8.3	14.0	76.3	8.8	15.0	58.8	9.5	3.2	68.8	11.5	19.7
2005-06	78.9	8.0	13.1	77.3	9.5	13.1	52.2	15.0	3.3	70.3	10.2	19.4
2006-07	78.8	8.1	13.1	79.0	10.1	10.9	52.6	14.4	3.3	69.9	10.5	19.5
2007-08 (RE)	78.1	8.4	13.5	76.0	9.4	14.6	50.9	16.4	3.3	67.3	10.6	22.1
2008-09 (BE)	77.5	8.4	14.0	72.2	10.5	17.2	52.8	15.9	3.1	67.0	10.8	22.2

Source: *Defence Services Estimates* (relevant years).

inconsistent (see Table 9). Of note is the year 2001-02 when the Air Force's share was at the lowest because of under-utilisation of allotted resources, to the extent of 50 per cent. Army's share has witnessed fluctuations, in the range of 21-35 per cent in the last 20 years. The increase in Air Force's capital share partly explains the Army's declining share and its own increasing share in both capital and overall defence expenditure.

Table 9: Share of Services in Total Capital Expenditure

Year	Army's Share (Rs. Crore)	Navy's Share (Rs. Crore)	Air Force (Rs. Crore)	Army's Share (%)	Navy's Share (%)	Air Force's Share (%)
1989-90	1208.842	1134.594	1446.091	28.6	26.9	34.3
1990-91	1371.346	1126.797	1633.546	30.1	24.8	35.9
1995-96	2452.34	1977.582	3023.77	30.6	24.7	37.7
2000-01	4290.573	3741.433	3346.361	34.6	30.2	27.0
2005-06	9299.593	7804.025	12531.3	28.8	24.1	38.8
2006-07	7251.111	9485.706	14627.29	21.4	28.0	43.2
2007-08(RE)	11568.23	8944.19	14328.73	30.7	23.7	38.0
2008-09(BE)	13331.48	12085.58	19271.42	27.8	25.2	40.1

Source: *Defence Services Estimates* (relevant years)

Intra-Service Allocations

As far as intra-Service resource allocation for the Army is concerned, Pay and Allowances (P&A) constitutes the single largest minor head, under revenue expenditure. In last 20 years, Army's expenditure on Pay and Allowances has increased from Rs. 3,362.7 crores to Rs. 16,982.4 crores in 2008-09 (BE). For the Navy and the Air Force, Pay and Allowances however constitute the second largest minor head, after Stores. While the Navy's Pay and Allowances expenditure has grown from Rs. 297.8 crores to Rs. 1843.2 crores in 20 years' times, the Air Force's Pay and Allowances has increased from Rs. 535.9 crores to 3073.1 crores.

Within the Services, the Navy has been able to reduce the percentage share of the Pay and Allowances expenditure in its revenue expenditure. On the other hand, the Army and Air Force have maintained the share of Pay and Allowances expenditure in their

Table 10: Percentage Distribution of Services' Revenue Expenditure among Pay and Allowances, Transportation, Stores and Works

Year	Army				Navy				Air Force			
	P&A (%)	Tran. (%)	Stores (%)	Works (%)	P&A (%)	Tran. (%)	Stores (%)	Works (%)	P&A (%)	Tran. (%)	Stores (%)	Works (%)
1989-90	45.5	3.7	37.4	6.1	36.5	7.6	43.0	8.6	28.5	2.8	61.2	8.0
1990-91	43.7	4.0	38.9	6.7	38.1	4.2	43.2	11.5	27.4	2.7	62.1	8.8
1995-96	45.3	2.5	33.8	7.6	32.2	2.5	44.3	8.9	25.8	2.2	66.7	6.9
2000-01	43.4	3.2	32.5	7.0	33.8	2.7	38.0	8.5	28.5	2.3	63.4	7.3
2005-06	48.7	4.0	29.9	10.0	24.4	2.4	42.6	7.2	27.0	2.2	62.4	9.2
2006-07	46.1	3.8	29.3	9.6	23.6	2.4	39.8	7.2	25.8	1.8	62.1	9.0
2007-08 (RE)	46.2	3.8	27.8	10.2	24.6	2.3	44.2	7.9	26.3	2.4	58.7	11.1
2008-09 (BE)	45.1	3.7	28.9	9.9	24.6	2.7	43.8	8.0	27.2	2.9	57.1	11.0

Note: P&A= Pay & Allowances; Tran. = Transportation.
Source: *Defence Services Estimates* (relevant years)

respective revenue budgets. While the Army and the Air Force have been able to reduce the Stores' share in revenue expenditure, from their peak levels, the former has witnessed a greater fall (see Table 10).

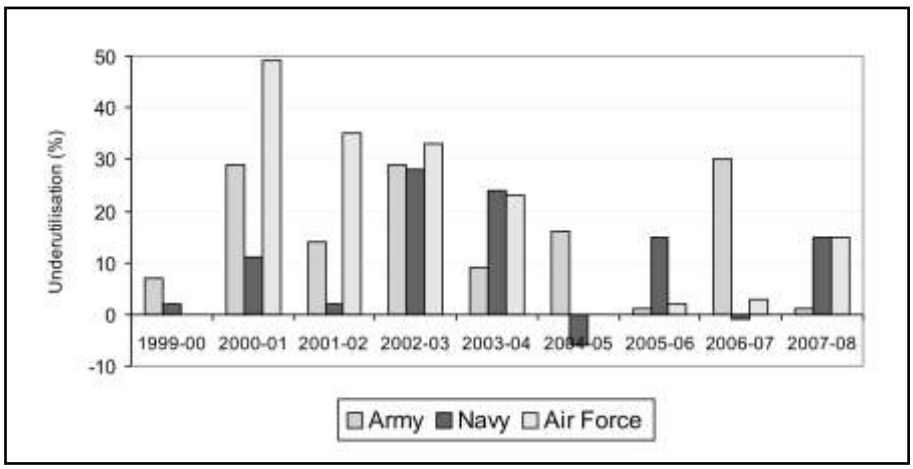
Under the capital head, 'Other Equipments' (OE) constitutes the single largest minor head of the Army whereas 'Naval Fleet' (NF) and 'Aircraft and Aero-Engines' (AC&AE) constitute the single largest minor heads of the Navy and the Air Force, respectively. In 20 year period, while Army's expenditure on OE has increased by nearly nine-and-half times to Rs. 8345.33 crores (BE), the expenditures on NF of the Navy and AC&AE of Air Force have increased by thirteen times and ten-and-a-half times to Rs. 7240.34 crores and Rs. 11986.77 crores, respectively. Notwithstanding the above growths, there is a great deal of fluctuations in each of the Services' largest

Table 11: Percentage Distribution of Services' Capital Expenditure among Services' Minor Heads

Year	Army			Navy				Air Force	
	AC & AE (%)	H & MV (%)	O.E. (%)	AC & AE (%)	O.E. (%)	Naval Fleet (%)	N.D/Pro (%)	AC & AE (%)	O.E. (%)
1990-91	4.5	6.0	68.2	26.8	0.5	60.4	5.9	81.9	8.0
1995-96	2.2	6.9	76.4	14.5	0.6	77.1	4.7	80.0	15.4
2000-01	4.5	10.2	69.7	8.3	13.5	69.0	6.9	79.6	13.6
2005-06	10.9	6.1	61.1	13.7	19.3	57.4	4.7	82.4	13.8
2006-07	8.8	9.4	44.2	3.9	12.5	74.6	4.9	88.3	6.8
2007-08 (RE)	11.3	14.1	49.1	4.5	15.3	65.5	8.1	66.7	26.2
2008-09 (BE)	3.2	9.6	62.6	18.6	9.6	59.9	5.5	62.2	32.6

Note: AC & AE = Aircrafts and Aero Engines; H & M. V. = Heady and Medium Vehicles; O.E. = Other Equipments; N.D./Proj. = Naval Dockyards/Projects.
Source: *Defence Services Estimates* (relevant years)

Annexure I
Under-utilisation of Capital Budget of Services



Note: Under-utilisation is the difference between BE and Actual/RE. Except for 2007-08, the difference is taken between BE and Actual.
Source: Figure extrapolated by author from data provided in *Defence Services Estimates* (relevant years)

minor heads. In the case of the Army and the Air Force, there a clear decline in the share of their respective largest minor heads (see Table 11).

Conclusion

India's official defence spending, as provided in successive DSEs, have increased substantially over the years, from Rs.14,416.17 crores in 1989-90 to Rs. 1,05,600 crores in 2008-09 (BE). According to SIPRI, India's defence spending in 2007 is the 10th largest in the world in terms of market exchange rate and 4th largest in PPP terms. In India's neighbourhood, New Delhi's defence expenditure is second highest behind China's, notwithstanding the secrecy surrounding the Beijing's actual military spending. From the resource allocation point of view, India's defence spending as a percentage share of GDP though has decreased yet it does not reveal a shifting priority of government's resource allocations. As a percentage of total central government expenditure, the defence still accounts nearly one-seventh of it.

As far as inter-services resource allocation is concerned, despite fluctuations in the respective shares of the three services in the defence budget, the Army still accounts for the largest share, followed by the Air Force and the Navy. However, in past two decades up to 2008-09 (BE), the Army has witnessed a decrease in its share in the overall budget, whereas the Navy and the Air Force have increased their respective shares. From budgetary perspective, this reflects a shifting priority, from more of a land-centric armed force to that of an air and naval centric force. This is also partially evident from the equipment acquisitions that favour the air and naval forces. The fall in the Army's share in the defence budget is more pronounced in revenue expenditure, especially on account of Pay and Allowances. Its fall in revenue share is partially offset by the sharp rise in Navy's Stores expenditure. The Air Force has maintained a near constant share in total revenue expenditure.

On the side of capital budget, there is great deal of fluctuations among the shares of all the services. This partially explains the problems in defence capital acquisition, clearly reflected in under-utilisation of capital budget of the individual services. Nonetheless the Air Force gets the maximum share in total capital expenditure. Despite some fluctuations, its share in the capital expenditure has increased over the years, reinforcing its capital-intensive nature among the three services. Compared to the Army, the Navy is more consistent in its share in the overall capital budget.

The intra-service resource allocation reveals that while the Army spends highest percentage of its revenue expenditure on Pay and Allowances, the Navy and the Air Force spend most on Stores. Unlike the Army, the Navy and, to some extent, the Air Force have been able to reduce their respective shares of Pay and Allowances in their

revenue budgets. In the stores budget, while the Navy and the Air Force have nearly maintained their respective shares, there is gradual decline in the case of the Army. Considering that the Stores budget cater to, among others, the operational readiness of the Armed Forces, the declining share of the Army's Stores budget needs further probing for its adverse impact, if any.

Notes

1. Government of India, Ministry of Finance, *Budget 2009-10 (Interim)*, accessed at http://indiabudget.nic.in/ .
2. Detail components of both *Revenue and Capital Expenditures*, note 23.
3. Government of India, Ministry of Defence, *Defence Services Estimates 2008-09*.
4. Stockholm International Peace Research Institute (SIPRI), accessed at http://www.sipri.org/
5. Ajai Shukla, "*How much is the defence budget?*" Business Standard, dated March 11, 2008. The assumption of one-third of DAE's budget is spent on military nuclear activities could not be ascertained by authoritative sources. Experts however differ on this particular aspect.
6. Extrapolated from SIPRI figures.
7. While countries incur military expenditure mostly in national currencies, such expenditures are converted to US dollars (using market exchange rates) and PPP dollar rates for international comparison. However, these conversions are not free from flaws. MER is determined by market forces and not necessarily reflect the actual price of the defence items. The PPP rate, as given by the World Bank, mostly reflect the civilian goods and services, so can not be representative of the military items. Between these two conversion rates, MER is however, accepted more reasonable. See *SIPRI Yearbook 2008*: *Armaments, Disarmaments and International Security*, Oxford University Press, Oxford, pp. 243-248, 2008.
8. *The SIPRI military expenditure database*. Accessed on November 13, 2008 at http://www.sipri.org/
9. Except for Russia, India and Saudi Arabia, other top 10 counties with highest military expenditure are also among the top 10 global economies. According to IMF's *World Economic Database*, October 2008, USA is the largest economy in the world with a GDP of $13.80 trillion, followed by Japan ($4.38 trillion), Germany ($3.32 trillion), China ($3.28 trillion), UK ($2.80 trillion), France ($2.59 trillion), Italy ($2.10 trillion), Spain ($1.44 trillion), Canada ($1.44 trillion), and Brazil ($1.31 trillion). Russia, India and Saudi Arabia are the 11th, 12th and 25th in the list of top economies in the world, with GDP of $1.29 trillion, $1.10 trillion and $.38 trillion, respectively.
10. *The SIPRI military expenditure database*, note. 8.
11. *China's defense budget to grow 17.6 percent in 2008*, available at
    http://www.chinadaily.com.cn/china/2008npc/2008-03/04/content_6506320.htm. Accessed on March 02, 2009.
12. Office of the Secretary of Defense, Annual Report to Congress, *Military Power of the People's Republic of China 2008*, pp. 31-32.
13. International Institute for Strategic Studies, *Military Balance 2006*, pp. 251.
14. Ibid, pp. 252.
15. *Military Power of the People's Republic of China 2008*, note 12, pp. 31.
16. *Budget at a Glance 2008-09*, Government of Pakistan, Ministry of Finance.
17. According to some, Pakistan's official budget does not include expenditures on account of military pensions, benefits for armed forces personnel (both serving and retired), space and nuclear programmes, and military aids from Gulf States and the US. See for example, International Institute for Strategic Studies, *Military Balance 2009*, pp. 340.
18. Chidanand Rajghatta, "*Obama says Pakistan misusing US aid for war against India*," Times of India dated September 6, 2008.
19. K. Alan Kronstadt, "*Direct Overt and Militray Reimbusement to Pakistan*, FY2002-FY2009" available at http://www.fas.org/sgp/crs/row/pakaid.pdf.
20. See for example, Jasjit Singh, *India's Defence Spending: Assessing Future Needs*, Knowledge World, New Delhi, p.22, 2000.
21. Lok Sabha Secretariat, 16th Report of the Standing Committee on Defence (2006-07), Ministry of Defence, 14th

Lok Sabha, *Demands for Grants (2007-08)*, pp. 11.

22. Lok Sabha Secretariat, Report of the Standing Committee on Defence, *Demands for Grants* (various years).
23. "The Revenue expenditure includes expenditure on Pay & Allowances, Transportation, Revenue Stores, (like Ordnance stores, supplies by Ordnance Factories, Rations, Petrol, Oil and Lubricants, Spares, etc), Revenue works (which include maintenance of Buildings, water and electricity charges, rents, rates and taxes, etc) and their miscellaneous expenditure. The Capital expenditure includes expenditure on Land, Constriction Works, Plant and Machinery, Equipment, Tanks, Naval Vessels, Aircraft and Aero engines, Dockyards, etc. The expenditure on items which have a unit value of Rs. 10 lakhs and above and a life span of 7 years or more is debited to the Capital Heads."
24. 29th Report of the Standing Committee on Defence, Demands for Grants (2008-09), pp.9.
25. See for example, Government of India, Ministry of Defence, *Defence Procurement Procedure (Capital Procurements) 2006*, pp. 6.
26. N.S. Sisodia, "*Buy Now*", Indian Express dated March 04, 2009
27. See Report of the Comptroller and Auditor General of India for the year ended March 2006, Union Government (Defence Services), Army and Ordnance Factories, No. 4 of 2007 (Performance Audit).
28. In 2008-09 (BE) the budget for R&D is Rs. 6486.35 crores, or 6.1 per cent of total defence budget.
29. *Indian Defence Yearbook 2007*.
30. These figures are in relation to BE of 2008-09.