

In the Chapter on Key Concepts of Defence Studies, you have learnt that ‘Economics’ is an important dimension of ‘National Security and National Power’. The need for a nation to be prepared for defence and its economic cost was well recognised from ancient times. In the Anushashan Parva of the Mahabharata, Bhishma instructs Yudhishtir about the duties of a King. He explains to him that a king should always protect his people. During the Mauryan rule, Kautilya considers war as a last option. But he also advises that when war is inevitable, preparation and maintenance of army is essential for the defence of the nation.

Adam Smith, the founder of economics as a discipline in the social sciences, was the first economist to theorise about the economics of war, in his major work, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776). He also accepted that the first duty of the sovereign is to protect the society and for that a military force is necessary. But how does the country meet the expenses of defence? He argued that since defence was common good for all the citizens the expenses must be met by everyone. He thus considered defence to be ‘public good’. It meant that it is for the benefit of all the people of the country. But everyone cannot pay the same amount to the government. The poor would not be able to afford to pay the same as the rich. Therefore, he suggested the policy of ‘payment according to ability’.

Today defence economics is an inescapable part of a nation’s economic management, it is a useful way of looking at military problems, many of which can essentially be seen as economic problems in the efficient allocation and use of resources. We can consider the economic problems of defence at three levels: (i) the quantity of national resources available now and in the future; (ii) the proportion of these resources allocated to national security purposes; and (iii) the efficiency with which the resources so allocated are used.

What is Defence Economics ?

Defence Economics is a sub set in the field of national economic management, concerned with the economic effects of military expenditure and the management of military budgets during peace and war.

To further amplify the scope, defence economics extends over the overall economy involving defence-related issues, which includes the level of defence spending; the impact of defence expenditure on domestic economy; the defence industry sector; the relation of defence spending to technological changes and the implications of defence spending for international peace and stability.

Determinants of Defence Expenditure

National security is highly valued by most citizens, judging by the sacrifices that many nations make when territorial integrity, or fundamental interests, are threatened. Nations tend to swing between the extremes

in terms of expenditure. They spend more on defence when military pressure is actually exerted on the country, and less when peace prevails. Perceptions are important in determining the demands for expenditure. Some of the determinants for expenditure are :

1. **Security Scenario** : Security issues include confrontations with neighbours, due to territorial and sovereignty disputes, competition over natural resources, managing bordering ethnic peoples and instability of a neighbour. India has faced and continues to face such confrontations with China and Pakistan. After the 1962 war with China, there was a manifold jump in India's defence expenditure.
2. **International Obligations** : India is committed to treaty obligations, including cooperative efforts with the United Nations (UN) and other coalitions and countries, including peacekeeping operations, humanitarian assistance, and disaster relief. India has such obligations with the UN, Bhutan, Nepal, Myanmar and Maldives which requires considerable expenditure from time to time.
3. **New Threats** : Impact of trans-national issues such as terrorism, drug-trafficking, and environmental issues have an impact on defence spending. India faces such threats from across the border from most of her neighbours. This has led to increased deployment of border security resources, leading to rise in expenditure.
4. **Maritime Issues** : This includes protection of Exclusive Economic Zones

(EEZs), marine resources, and fisheries. India raised the Coast Guard specifically for this task at considerable cost.

5. **Trade** : Protection of market access to trade, investment, energy, food, and other vital resources requires finance. India imports eighty percent of her energy needs from oil producing nations by sea, these routes need to be protected. This means that India needs a strong Navy to protect its sea routes.
6. **Domestic Concerns** : Internal security issues include maintaining domestic law and order, counter-insurgency, etc. India is faced with the Naxal problem as also Pakistan sponsored terrorism. The Central Reserve Police has been strengthened and expanded for this task.

Defence and Development

One of the issues in the discussion of defence economics, is in context to third world and developing nations. These nations face the challenges of economic development and poverty alleviation. The question is if such a nation spends on defence, will it be at the cost of development ? Or is there a case, for both defence and development going hand in hand keeping in mind the overall interests of the nation.

In the 1940s and 1950s, defence expenditure was not looked at positively. It was thought that it took money away from development. In the past development was understood simply as economic and industrial growth. Today things have changed. Today development is looked at in a holistic manner. It involves several aspects. We talk of social, political, economic development, modernisation,

and environmentally friendly approaches. The word used is sustainable growth and development.

The Complementary Nature of Defence and Development :

Today we see defence and development to be complementary. Some examples are given below :

1. Adequate expenditure on national security helps create a peaceful and secure atmosphere, this is conducive for industrial and economic growth. This creates more jobs and income which leads to increase of the Gross Domestic Product (GDP). A good rate of increase in GDP, attracts more investment in the nation's economy. Thailand consistently leads its neighbours Cambodia, Laos and Myanmar in development because of the peace and tranquillity it enjoys as compared to the neighbours, this in turn makes it the number one tourist destination of the region.
2. Defence spending includes creation of infrastructure such as roads, bridges, railway lines and airports. This helps
3. Development of defence industrial sector gives a boost to civilian industries, by bringing in new technology and setting up of ancillary industries. For example, requirement of Titanium alloys to manufacture fighter jet engines and artillery guns has resulted in a plant to convert indigenous ore to Titanium metal and alloys which are also used in civilian industry. This has resulted in import substitution and creation of more jobs.
4. As defence forces recruit large number of youths from rural areas and train them in various skills, it widens the mental and attitudinal horizons of the recruits, they pass on these skills and disciplined behavioural norms to their village.



Creating infrastructure in forward areas for defence and development

Do you know ?

The Third World is a collective name for the countries of Asia, Africa and South America. Most of these countries had been colonies in the past. They are also described as developing, less developed, or least developed countries. This is because they have a slow pace of industrialisation, low literacy rate and high level of population. Most of these countries have joined the nonaligned movement. During the cold war the Western capitalist economies aligned with the United States were described as the First World and the Eastern communist economies aligned with the Soviet Union were referred to as the Second World.

Increasing Commonality in Defence and Non-Defence Expenditure

Besides the complementary nature of Defence and Development there is also an increasing trend of commonality in the end use (also called dual use) of technical and economic resources for commerce as also security. For example; nations now build up strategic reserves of natural resources like petroleum, food grains, and metals at a great cost, to ensure against an adverse impact on their national economy in case of disruptions in their supply due to international/diplomatic pressures, internal disturbances or war. Similarly, nations spend large amounts on cyber security during peace time, mainly against espionage and economic crimes, this cyber security is also designed to ensure the protection and serviceability of vital national internet-based networks.

Dangers of Over spending for Defence

Defence spending is inescapable for a sovereign nation; a nation has to be

judicious in balancing its security concerns with that of welfare and development needs of its citizens. Overplaying the security needs often leads to nations overspending beyond their economic abilities. Such a situation more often than not has led to the down fall of the nation. This occurs when a nation gets involved in an arms race with its rivals, or due to the whims and fancies of its rulers. A leading superpower like USSR also suffered a political and economic implosion in the 1980s. In trying to build the world's largest military force it could not economically afford in competing in an arms race with the USA.

India's Defence Budget

Every year in February, the Indian Finance Minister presents the Budget to the Parliament. The Budget gives an estimate of the nation's income and expenditure for the next financial year. In the budget speech, the Finance Minister gives out the amount that would be allocated in the ensuing financial year for expenditure to various armed services and entities under the Ministry of Defence (MOD), i.e. the Army, Navy, Air Force, Coast Guard, DRDO, Ordnance Factories Board and the Defence Pensions. The allotments are based on estimates projected by the various services and entities to the MOD.

Among all the nations of the world, India is ranked among the top five military powers. India is also among the top five nations ranked as per the annual budget expenditure. However, India's ranking in defence spending as per percentage share of GDP is not in the first five but much lower. This means India allots much lesser percentage of its national income on defence

The percentage share of Defence in GDP is considered as a common measure of a country's Defence expenditure and gives a fair idea about its affordability. In case of India, the percentage has been as follows :

Year	% of GDP
2014-15	2.06%
2015-16	1.96%
2016-17	1.50%
2017-18	1.56% (Budget Estimates)

Source : Committee on Estimates, 2018-19, 29th Report, 16th Lok Sabha, Lok Sabha Secretariat, New Delhi.

Comparative Military Expenditure

Sr. No	Countries	Military Expenditure as percentage of government spending for 2016	Military Expenditure as percentage of government spending for 2017
1.	India	9.0%	9.1%
2.	Pakistan	18.0%	16.7%
3.	China	6.0%	6.1%
4.	USA	9.0%	8.8%
5.	Russia	14.8%	12.0%

Source : SIPRI Military Expenditure Database

<https://www.sipri.org/databases/milex> , (28 November 2018)

than other nations who are top five military powers. In fact, China and Pakistan rank much above India in defence spending measured as a percentage of GDP.

The defence budget can be broadly classified under two heads of expenditure:

1) Capital Expenditure : Allotments under this head are meant to meet expenditure on account of procurement of weapons and equipment for the armed forces, these include aircraft, ships, guns etc. It also includes creation of permanent infrastructure and assets such as air bases, defence-oriented roads,

setting up factories and workshops etc for manufacturing defence weapons and equipment.

2) Revenue Expenditure : Allotments under this head are meant to meet expenditure on account of maintenance of weapons, equipment, infrastructural assets like military bases and housing, training activities, pay and allowances, expenditure on consumable and expendable items such as fuel, rations, clothing, spares etc and logistic and administrative activities like transport, medicine and health care etc.

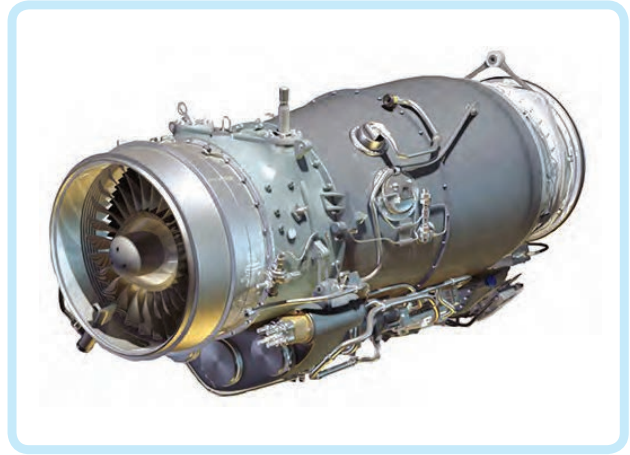
India's Defence Production and Procurement

When India became an independent nation in 1947, the general level of industrialisation in the nation as a whole was very low. There was hardly any capability for the research, design, development and manufacture of weapon systems. India was fortunate to inherit 18 Ordnance Factories (OFs) established by the British rulers in the 18th & 19th century, as also two Ship Repair Yards established in the 1930s, however these were basic in nature, manufacturing low technology items such as uniforms, tents, rifles, small arms ammunition, gun carriages and repairing small ships. Besides the state owned OFs and shipyards, the Tata and the Walchand Group of Industries were the only pioneers in the private sector, with some experience in manufacturing weapons grade steel and the repair and overhaul of aircraft and ships in their factories. Post-independence, the government nationalised and took over the Hindustan Shipyard and Hindustan Aeronautics from the Walchand Group.

Defence Public Sector Undertakings (DPSUs)

From the above-mentioned meagre defence manufacturing resources in 1947, the industry grew significantly but mostly in the government sector. The government established nine (DPSUs) under the Department of Defence Production MOD, they are :

- 1. Hindustan Aeronautics Ltd (HAL) :**
The main manufacturing hubs are at Nashik and Bengaluru. Its main activity is production of military aircraft and aero-engines. It also builds transport aircraft and helicopters for civil use.



HAL Products

- 2. Bharat Electronics Ltd (BEL) :** Plants are located at Bengaluru, Gaziabad and Pune. Its main activities are in the area of radar, electronics and electro-optics and missile command posts for the armed forces. It also makes electronic voting machines for the civilian market.



BEL Products

3. **Bharat Dynamics Ltd (BDL)** : Located mainly at Hyderabad, it manufactures Anti-Tank Guided Missiles (ATGM), Surface-to-air weapon systems, strategic weapons, launchers, underwater weapons, decoys and test equipment.
4. **Bharat Earth Movers Ltd (BEML)** : Its main locations are Bengaluru and Kolar Gold Fields. It is engaged in design, development, and manufacturing of Earth Moving Equipment, Metro rail systems, Heavy High Mobility Vehicles, Mining & Construction Equipment and Heavy recovery vehicles. Some of these products are for use of defence forces.
5. **Mishra Dhatu Nigam Limited (MIDHANI)** : It is situated in Hyderabad, it manufactures a wide spectrum of critical and complex alloys like super alloys, titanium alloys, special steels & stainless steels, soft magnetic alloys etc.
6. **Mazagon Dock Shipbuilders Limited (MDL)** : This is located in Mumbai. It is a leading Shipyard engaged in construction of Warships and Submarines.

7. **Garden Reach Shipbuilders and Engineers Limited (GRSE)** : This is a shipyard located at Kolkata. Besides repair and maintenance of naval vessels. It also constructs warships of all types.
8. **Goa Shipyard Limited (GSL)** : This shipyard is located at Goa and it also does construction, repair and maintenance of light naval vessels.
9. **Hindustan Shipyard Limited (HSL)**: Hindustan Shipyard Ltd. is located in the port city of Visakhapatnam on the East coast of India. It does the work of construction and repair of Naval ships and Strategic / Conventional submarines.

Ordnance Factories (OF)

Besides the nine DPSUs, the 18 OFs have also expanded, now there are 41 OFs under the Ordnance Factories Board of the Ministry of Defence engaged in the production of a comprehensive product range in the area of land, sea and air systems. The various products that these factories produce include Ammunition, Explosives, Propellants & Chemicals, Military Vehicles, Armoured

Mazagon Docks Products



Destroyer



Submarine



Vehicle Factory Jabalpur

Vehicles, Optical Devices, Parachutes, etc. Manufacturing of a defence product is seldom done under one roof. The parts and sub-assemblies are manufactured by several small and medium scale industries mostly in the private sector, as per designs given by the designer (DRDO). These are then integrated by the OFs and DPSUs to make the final product.

Participation of Private Sector and Foreign Companies in Defence Manufacturing.

The DPSUs and OFs are not able to meet all the demands of making modern weapon systems in the required quantity and time. India tops the list of weapons importing nations. Seventy percent of India's weapon systems are imported from

abroad, with Russia, France, USA and the UK being the major suppliers. The Air Force followed by the Army are more dependent on imported weapons, the Navy is in a happy position as most of its warships are made in India.

In a bid to make India self-reliant in manufacturing the necessary weapons, the government, since 2001 has progressively increased the scope of participation of Indian Private Sector companies to manufacture weapon systems for the armed forces. Besides this the government has also permitted foreign companies to invest in setting up defence manufacturing plants in India, as also form joint ventures with Indian companies. Hopefully India will become self-reliant in the not too distant future.

Please see the following website for further information :

Comparative Military Expenditure

SIPRI Military Expenditure Database

<https://www.sipri.org/databases/milex> ,(28 November 2018)

EXERCISE

Q. 1 (A) Choose the correct alternative and complete the following statements.

- i. Adam Smith considered defence to be ____
 - a. Public good.
 - b. Wasteful expenditure
 - c. An unnecessary activity of the State.
 - d. An individual choice
- ii. Expenditure done to meet expenditure on account of procurement of weapons and equipment for the armed forces is ____
 - a. Revenue expenditure
 - b. Capital expenditure
 - c. Contingent expenditure
 - d. Private expenditure

(B) Find the odd word from the given set.

- i. Bharat Electronics Ltd (BEL).
- ii. Ordnance Factories (OFs)
- iii. Bharat Earth Movers Ltd (BEML)
- iv. Hindustan Shipyard Limited (HSL).

Q. 2 State whether the following statements are true or false with reasons.

- i. India's defence expenditure reduced after the 1962 war with China.
- ii. Development of defence industrial sector gives a boost to civilian industries.

Q.3 Answer the following questions briefly.

What is the role of Ordnance Factories ?

Q.4 Express your opinion on the following.

What are the dangers of overspending for defence ?

Q.5 Answer the following.

What is the difference between capital expenditure for defence and revenue expenditure for defence ?

Q.6. Answer the following in detail with reference to the given points.

What are the determinants of defence expenditure ?

- (a) Security scenario,
- (b) International obligations
- (c) New threats
- (d) Domestic concerns.

Activity :

Write a note on any one Defence Public Sector Undertaking. Discuss its importance in the classroom.

