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Indian Defence Offset Policy— Does it Help Boost Indigenisation?

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Contents

Chapter 1
General

Long years ago, we made a tryst with destiny, and now the time comes when we shall redeem our pledge, not wholly or in full measure, but very substantially…

Jawaharlal Nehru, August 14/15, 1947, in his address to the First Constituent Assembly of Independent India

Introduction

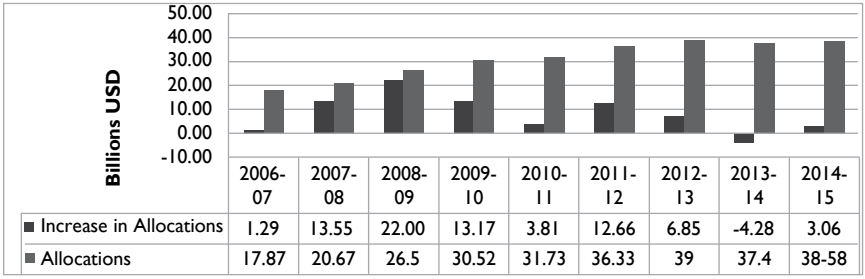
For a country to achieve strategic autonomy and graduate from a "developing" to a "developed" nation status, a well established indigenous defence industrial base is perhaps one of the most fundamental and key requisites, and India is no different. The unique geo-strategic and geo-political backdrop in which India finds itself today, offers it the opportunity to stand out as a regional power in South Asia and the Indian Ocean as well as be taken as a serious player in the world arena. India's average economic growth of 07 percent over the past decade[1], notwithstanding the global recession, has afforded it the chance to develop a strong and stable national security structure, not only to deter but also defeat its adversaries, if it be so required. The Indian armed forces are an essential instrument of national power and it is, therefore, imperative that they need to be operationally equipped and prepared to take on the mandated brief and national aspirations.

The defence industrial base in India comprises a triad which primarily includes the Defence Research and Development Organisation (DRDO), Ordnance Factory Board (OFB) which has under its wings several Ordnance Factories (OFs), Defence Public Sector Undertakings (DPSUs) and a slowly trudging private defence sector. The various stakeholders and their respective share in the domestic defence industry pie are given at Appendix A. With an employee base of approximately 1.8 lakh people, the size of the military industrial workforce is similar to that of countries like the UK and France which are among the largest producers of defence related products in the

world. In spite of this large set–up, production output has remained insufficient to meet the growing needs. India has so far adopted numerous instruments and methodologies such as licensed production, Transfer of Technology (ToT), Joint Ventures (JVs) and indigenous Research and Development (R&D) to acquire and absorb critical defence technologies[2]. However, the current state of affairs is far from realising a sustainable national indigenous defence manufacturing industry. Despite efforts by all stakeholders and policy enunciations from the government, the aspirations and expectations of the armed forces from the domestic industry are yet a distant dream. Several factors like inordinate delays in modernisation projects, cost and time overruns, lack of strategic vision and synergy among stakeholders have posed a challenge for achieving indigenisation. There also seems to be serious disconnect between the planning and execution of projects meant to achieve the ultimate objective of self-reliance and indigenisation in defence. Notwithstanding the proactive stance of the government with regard to private sector participation in defence manufacturing, doing business in India continues to be a highly complex and daunting task for companies. Several challenges remain in implementation which will need to be addressed if this policy shift is to become successful. The majority of equipment procurement contracts have in the past been awarded to foreign corporations. Due to heavy restrictions placed on it, the domestic private sector has not been able to compete effectively in this space. In all, Indian private players contributed to just about 10 percent of total turnover in defence during 2008-13,[3] mainly as Tier II or III suppliers. It is imperative that India should leverage private industry as a strategic defence asset and help it to become a full partner in its growth and modernisation plans. The increased push for private participation will enable domestic companies to build critical capabilities in areas that were hither to fore excluded for them. The multiplier advantages that could accrue in a host of related sectors such as communications, manufacturing, automotive, aviation etc, could be enormous. The world over, advancements in military technology have eventually percolated down to other sectors, giving companies a host of competitive advantages. The strategic advantages of creating a vibrant defence domestic sector will, therefore, go a long way in accelerating India's manufacturing capability. If a vibrant domestic sector is not created, our procurements will only help create/maintain jobs in other

countries and not utilise the opportunity to create the same in India, and also save and earn valuable foreign exchange. If India is to achieve its strategic objective of 70–80 percent domestic supply in defence, then the indigenous production would need to expand by an average of 30 percent a year.

Fig 1.1: Indian Defence Budget (2006-14)



	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Increase in Allocations	1.29	13.55	22.00	13.17	3.81	12.66	6.85	-4.28	3.06
Allocations	17.87	20.67	26.5	30.52	31.73	36.33	39	37.4	38-58

Source : Compiled from data available with Press Information Bureau (PIB), Government of India

As India's military spending (capital outlay for defence procurements) has grown nearly four times from INR 21,569 crore in 2002-03[4] [2002-03 has been taken as the base year since a formal Defence Procurement Procedure (DPP) for defence procurements was introduced only in 2002] to INR 94,588 crore in 2014-15, the Indian government has made several iterations to its defence procurement policy and introduced an offset policy, which requires foreign suppliers to reinvest 30 percent of their total procurement spending in Indian defence related industries. The offset policy, which has been implemented with varying degrees of success in other countries, springs from the government's understandable desire to develop indigenous defence capabilities. It is applicable to procurement proposals where 30 percent of all defence deals above INR 300 crore must be invested in the Indian defence industry and this could be in the form of setting up training facilities, sourcing components, technology sharing or making use of Information Technology (IT) services from Indian service providers. India has, however, been late in adopting an official offset policy though it had obtained some compensatory benefits since independence through a series of bilateral arrangements. The offset policy introduced in 2005, has

been amended several times over and its latest *avatar* as promulgated in DPP-2013 but effective wef August 01, 2012, is fairly comprehensive and clear. Sadly, even after nearly a decade, the offset policy is yet to be fully exploited and tested against the complex process of managing offsets in sync with the acquisition programme.

The Indian offset policy is yet in its nascent stages and lacks clarity in many areas. It also suffers from the absence of any designated agency in the Ministry of Defence (MoD) for guiding, overseeing, executing and monitoring the implementation of the policy and, above all, auditing the indigenisation accrued from the receipt of offsets. The present offset policy permits foreign vendors to discharge their offset obligations either through the execution of defence exports of items and services or through investments in India's defence infrastructure. The Original Equipment Manufacturers (OEMs) also have the option of selecting Indian firms in consultation with an industry associate of their choice to implement their offset obligations. ***In reality, confusion reigns in equal measure in the corridors of South Block as in the minds of the OEMs/ vendors on how to implement the offset obligations. In-fact, the offset policy has not yielded any major dividends in terms of providing a boost to indigenous defence production and establishing a defence industrial base in the country. Offsets have been termed by experts as "smoke and mirrors", with nobody being sure as to "who benefits" from these instruments.***[5] ***It needs to be understood that offsets come at a price and are not mere freebies accompanying defence purchases***. Depending on the economic conditions prevalent in the offset applying nation, its industrial base or its capacity to absorb technology, vendors/OEMs hike the cost of their goods/services to compensate for the inefficiency, which is inherent to the nation seeking offsets. Therefore, an offset implementing nation pays more for the import of defence items than it would otherwise have to if it did not impose mandatory offset obligations.

The introduction of an offset policy presents both challenges and opportunities. Buyers consider offsets as a catalyst for industrial and technological development, employment, creation of value-added activities and skills development. Sellers, on the other hand, perceive offsets as providing product differentiation and competitive advantage in an already cut-throat defence market. Examples of setbacks abound all over the world,

for instance, under Japan's offset policy, domestic manufacturers produce goods under licence from international firms, but not at cost-competitive rates. However, the long-term economic viability of offset programmes needs to be examined in depth before embarking upon them. Rapid obsolescence of technology and overcapacity can render a programme wasteful. For instance, Turkey invested heavily in setting up the assembly lines for an F-16 programme, but today it is faced with dwindling orders and overcapacity, as many other countries that bought the F-16 had also established similar facilities under their respective offset programmes[6]. ***A well-crafted offset policy and an efficient implementation strategy can help India's domestic defence industry avoid these mistakes. Optimising India's defence capabilities will require an inflow of skills and knowledge from the experienced global industry players, as well as strong coordination among the Ministry of Defence, Service Headquarters, industry, academia and defence research institutes***. The role and charter of the newly created Defence Offset Mangement Wing (DOMW), which has replaced the erstwhile Defence Offset Facilitation Agency (DOFA), in taking on a more proactive role in facilitating linkages between foreign OEMs/ vendors and domestic industry, has been redefined in the hope that the pace of defence industry development and formation of partnerships can accelerate indigenisation and self-reliance. ***India may have opted for the use of an economically efficient vehicle in the form of offsets to promote its domestic defence industry. But, the moot question is whether India has carefully calibrated its regulations and put in place a system that can optimise the benefits that may accrue from an offset policy, which in the first place comes at a cost***.

Aim of the Study

The aim of this study is to evaluate the efficacy of defence offsets in terms of their effectiveness in their contribution to the creation of a robust and sustainable indigenous defence industrial base and recommend an Indian model alongwith concerned governmental procedures and policies, so as to leverage offsets accruing from defence procurements.

Scope

The study is limited to exploration of the following aspects pertaining to defence offsets:

- Understanding the complexities of implementation of the defence offset policy.
- Evaluation of global offset models as adopted by selected developed and developing countries.
- Determining the factors that contribute towards an effective offsets strategy and optimise implementation.
- Critical analysis of India's current defence offset policy as outlined in DPP 2013.
- Proposal of policy recommendations towards an effective offset model and connected government procedures to maximise the benefits that can accrue to the nation from capital acquisition of defence equipment and achieve the stated objective of indigenisation in the defence sector.

It is pertinent to mention that although all efforts were made to interact and liaise with the nominated agency responsible for offsets, viz, Defence Offset Management Wing (DOMW), Ministry of Defence, no data pertaining to offset contracts (already signed as well as those in the pipeline) and clarifications on policy regulations pertaining to the methods and tools employed for monitoring offsets during the post-contract stage were shared by them on account of confidentiality and being signatory to a Non-Disclosure Agreement (NDA) with the vendors and the Indian Offset Partners (IOP). Similar inhibitions were expressed by the Acquisition Wing, Ministry of Defence. The limited data used in the study is as obtained from open sources, perviously/ published work, literature reviews and interaction with the industry.

Chapter 2
Philosophy, Concepts and Components of Defence Offsets

We seldom make logical mistakes, but often have mistaken logic.

– *Raheel Farooq*

Introduction to Defence Offsets

In its simplest form, an offset is a trade-off or a type of barter system. Offsets can generally be termed as formal arrangements of trade, wherein a foreign supplier undertakes specified programmes with a view to compensate the buyer as regards his procurement expenditure and outflow of resources. In other words, the supplier undertakes programmes to generate benefits for the economy of the buyer country. Academicians and practitioners often find it difficult to define offsets. Offsets are complex, muddled with terminologies, complicated tools, formulas and contradictory practices, but offsets are also unique as they create strategic and economic opportunities. Offsets have been subject to various definitions, meaning different things to different people. Given below are the most common offsets definitions:

- "….an offset is a contract imposing performance conditions on the seller of a good or service so that the purchasing government can recoup, or offset, some of its investment. In some way, reciprocity beyond that associated with market exchange of goods and services is involved".[7]
- "… an offset occurs when the supplier places work of an agreed value with firms in the buying country, over and above what it would have bought in the absence of the offsets".[8]
- "Offsets are simply goods and services which form elements of complex voluntary transactions negotiated between governments as purchasers and foreign suppliers. They are those goods and services on which a government chooses to place the label *offset*'".[9]

However, legitimately one of the most encompassing and modern definition of offsets may be as enunciated by the US Department of Commerce, Bureau of Industry and Security, as under.[10]

> *"An offset is a contract imposing performance conditions on the seller of a good or service so that the purchasing government can recoup, or offset, some of its investment. In some way, reciprocity beyond that associated with normal exchange of goods and services is involved. An offset occurs when the supplier places work to an agreed value with firms in the buying country, over and above, what it would have bought in the absence of the offset.* ***Offsets are usually designed to achieve relocation of economic activity from the country of the equipment supplier to the purchasing nation****".*

Offsets are a formal arrangement since they have inbuilt contractual obligations. The negotiated package consists of the primary contract and the compensatory offsets contract. Different nations have used offsets differently to suit their specific requirement, therefore, countries evaluate and assess offsets in different ways. For example, offsets are often established as a condition for participation to the bid**;** if the vendor fails to present a viable offset package, typically meeting certain buyer specific requirements, then the bid is disqualified. Another widely used approach is to have offsets as one of the award criteria, which implies that offsets comprise one of the parameters alongwith cost and performance to evaluate the qualified bids.

Philosophy Behind the Evolution of Defence Offsets

At the end of World War II, nation states were confronted with a variety of problems, including domestic economic disarray and international trade crisis. During this period, the US became concerned about the Soviet Union's military capabilities and decided to offer offsets to its allies as a means of increasing its allies' industrial capabilities and modernising as well as standardising military equipment among the North Atlantic Treaty Organisation (NATO) participants. This strategy changed in the 1960s and 1970s when a large number of industrialised Western European countries, recognising the increasing costs

of advanced technology, began to demand offsets to maintain their defence effectiveness. The governments of these countries wanted to justify the huge outflows of foreign currency through military purchases by returns in the form of economic development. The East European and other developing countries slowly emulated Western offsets practices aimed at raising their defence and economic capabilities. On the civil side, commercial offsets development can be traced back to the 1970s with the changing face of global industrial competitiveness. Today, offsets have gained prominence not only among the developed countries but also increasingly among the developing ones. There are many reasons for the increased importance of offsets. The end of the Cold War left a security vacuum. There was a global reduction in defence spending, causing a massive dent in the growth and progress of the defence industry. The developing countries reprioritised their national budgets by reducing defence spending and reallocating spending into other sectors of development. Much defence spending was now focussed on defence modernisation programmes to upgrade and equip the armed forces with the latest state-of-the-art-technology. Overall, it became a buyers' market. The shrinking defence market, rising equipment costs, increasing demand on 'value for money' and the uncertainties of future defence procurement forced multinationals to pursue market consolidation to become internationally competitive. Against this background, defence contractors had to offer additional incentives, such as offsets, to stay competitive within the defence market. In the 21st century, offsets transactions have continued to grow, featuring as a key ingredient in the arms trade.

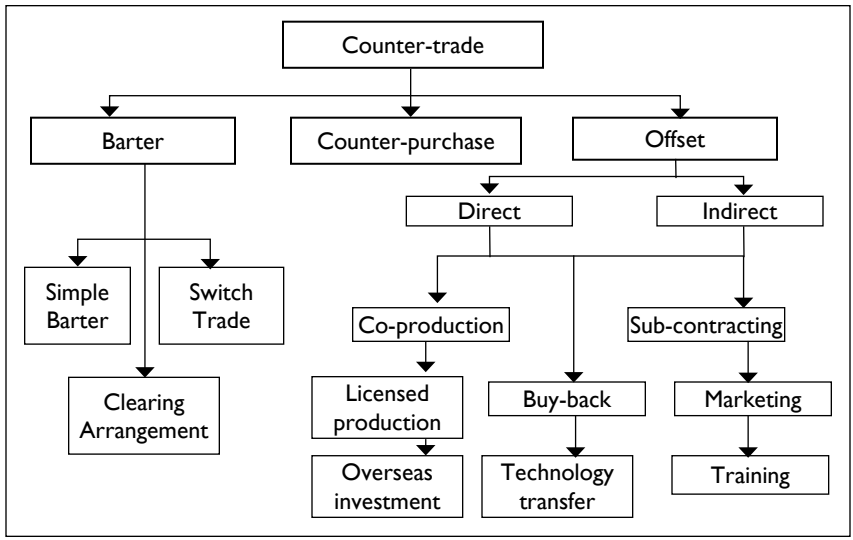
Concepts in Defence Offsets

Offsets Thrive in Contradiction: At one end of the spectrum, offsets are recognised as a tool for economic development, that contributes to technological and industrial growth. On the other hand, offsets are in opposition to a free market approach, encouraging corrupt practices, market distortion and cost inefficiency. The truth, however, lies somewhere between these two extremes.

***Offsets as Components of Counter-trade*:** Offsets fall under the umbrella term of counter-trade. Fig 2.1 below explains the various components of counter-trade. Generally, counter-trade is divided into three

broad categories of barter, counter-purchase and offsets. While barter eschews the use of money, counter-purchase and offsets impose reciprocal commitments.[11]

Fig 2.1: Components of Counter-trade



Source: Johan van Dyk, Denel Pty Ltd, Introduction to Offsets : 2001 Offset Workshop, Kuala Lumpur, July 2001 (Ministry of Defence, Malaysia, 2001)

"Offsets, co-production, barter and counter-trade are compensatory trade agreements that incorporate some method of reducing the amount of foreign exchange needed to buy a military item/some means of creating revenue to help pay for it"[12]. Various definitions appear to offer a common understanding that offsets are a form of compensatory or reciprocal trade agreement between private companies of seller countries and governments of buyer countries in the arms trade.

Barter: Barter can be in the form of simple barter, clearing arrangements and switch-trade. The earliest counter-trade activity was mainly in the form of simple barter. This practice existed for a long time and flourished during the great depression of the 1930s, an era when governments and industry faced difficulties in paying for their imports and financing their exports due to exchange restrictions, large debts and low foreign exchange currency reserves. Simple barter is a simultaneous exchange of one item for another.

The essence of this transaction is the exchange of goods without the use of currency. Simple barter was popular until end of World War II when a "truly monetized world economy" was established. Barter amongst all forms of counter-trade was the most popular mode of transaction until the end of World War.[13]

Counter-Purchase: The second mode of counter-trade transaction is counter- purchase. Counter-purchase is an agreement whereby the initial exporter buys or undertakes to find a buyer for a specified amount or value of unrelated goods from a set list determined by the buyer, during a specified time and to the value of the initial export. The value of the counter-purchase goods is an agreed percentage of the price of the goods originally exported. This type of transaction is the most widely used of all counter-trade options. Counter-purchase usually occurs between an advanced country and a developing country and is found particularly in key industrial sectors. Defence companies tend to avoid counter-purchase agreements because they inevitably incur extra transaction costs. In addition, many counter-purchase agreements impose quite rigid specifications relating to the time for completion of the counter-purchase and penalties for non-performance.[14] The product to be counter-purchased may vary from oil to agricultural produce. One of the earliest defence deals, which followed this arrangement, was oil for weapons by the oil-rich Gulf countries.

Offsets: Offsets, the third mode of counter-trade, have become increasingly popular, especially in the international defence trade in recent years.

- **Direct Offsets:** Direct offsets are contractual agreements that involve defence products and services referenced in the sales agreement for military exports. ***Countries that want to develop their defence industrial base generally seek direct offsets***. Direct offset transactions are directly related to the defence items or services exported by the defence firm and are usually in the form of co-production, sub-contracting, technology transfer, buy-back, JVs, marketing assistance, training, production, licensed production or financial assistance. For example, a buyer of military equipment may be given the right to produce a component of a related technology in the buyer's country. Countries like the UK, US, Singapore and South Korea adopt this interpretation.

Others, such as Malaysia, South Africa and Portugal, include all defence related activities as direct offsets. These activities are explained in detail below.

- ***Co-production*** permits a foreign government or producer to acquire the technical information to manufacture all or part of a defence item domestically. Co-production can be either Government-to-Government (G2G) agreements or between a government and a private manufacturer. Co-production includes G2G licensed production, but excludes licensed production based upon direct commercial arrangements by prime manufacturers.
- ***Licensed production***, a commercial arrangement, involves the manufacture of a whole system or just components of the system using the supplier's technology in the buyer's country. This must, however, be done with the permission of the supplier government. The quantity of the items to be manufactured can be a proportion of all its orders, including exports. The Indian Main Battle Tank (MBT) programme (Tank T -72/ T-90) from Russia is through this route.
- ***Technology transfer*** can include both product and process technology, with the presumption that the buyer's defence industrial capacity is well developed to be reasonably able to absorb the transfer. Both, co-production and licensed production, however, take into consideration issues such as unit costs, lead times and equipment costs. ***By far, technology transfer is the most common and generally accepted to be the best form of direct offsets. It is considered the engine that drives offsets. Technology transfer is highly prized and considered one of the most valuable benefits of offsets***.[15] South Korea negotiated a unique direct offset arrangement with its F-16 procurement. It acquired technology from Lockheed Martin to produce most of the parts of the F-16 and final assembly of 108 of the total 120 purchased aircraft. It also extracted an undertaking from Lockheed Martin to co-develop its KTX-2 advanced trainer as part of its offset obligation.
- ***Sub-contractor production*** is a straightforward overseas production of parts or sub-systems of a wider defence system. It does not necessarily involve licensing of technical information and is

usually a direct commercial arrangement between the defence prime contractor and a foreign producer. This is one of the less desirable forms of offsets for a country to negotiate, as it comprises little transfer of technical knowledge.

- **Indirect Offsets:** In contrast to direct offsets, indirect offsets are contractual arrangements that involve goods and services unrelated to the exports referenced in the sales agreement. These transactions are not directly related to the defence items or services exported by the defence firm. The kinds of offsets that are considered "indirect" include purchases, investment, training, financing activities, marketing/export assistance and technology transfer. For example, an investment in a security software company of Romania, or in assisting the export and marketing in difficult areas of a Belgian environmental company are forms of actual indirect offsets. The Czech government drove a hard bargain while negotiating to lease Gripen jet fighters from Sweden. It managed to extract a highly competitive price with lucrative indirect offsets. The Swedish-led consortium offered to help in 30 projects spanning energy generation, automobiles, aerospace and transport. ***The importance of indirect offsets can be gauged from the fact that over the years, a definite shift is discernible towards them. Today, indirect offsets outnumber direct offsets by two to one, as the buyer countries have realised the immense economic and social potential of offsets***.
- **Quasi-Offsets:** There is no formal classification for these types of offsets. Offsets at times may transcend into forms which can be a mix of direct and indirect formats. For instance, Greek companies produce part of the Lockheed C-130 that they bought from the US. The Greek co-production is a US direct offset. Or, in a more sophisticated form of offset involving three countries, Portugal is in charge of the maintenance of the Kuwaiti Lockheed Martin aircraft. This is a Portuguese "direct offset", since Portugal bought the aircraft, and is a partner in charge of their maintenance. While negotiating a deal for 18 SU-30 fighters from Russia for $900 million, Malaysia obtained offsets with wide-ranging dispensations after three years of intense bargaining. Russia agreed to acquire palm oil worth $300 million in part payment of the aircraft. It agreed to provide technology worth $270 million. Further, Russia

undertook to establish a joint venture facility to service the aircraft and co-produce some components. It also accepted a Malaysian astronaut for training. This is an ideal example of seeking offsets according to the defence and economic needs of the country.

Why Pursue Offsets?

The reasons for pursuing offsets can be looked at from two different approaches: from the buyer's perspective and from the seller's perspective. For buyers, offsets act as a mechanism to leverage economic development from contractors. Purchase of military equipment involves huge cash outflows to the exchequer that are not normally directly reflected as beneficial to the society. Purchasing countries, thus, view offsets as an excellent tool to justify military expenditure. They normally highlight the beneficiaries' economic returns in terms of jobs, investments, enhanced industrialisation and foreign exchange savings.

Payoffs of Adopting an Offset Regime

- Leveraging for acquiring high/ cutting edge technology.
- Domestic job creation.
- Enhancing skills of domestic workforce.
- Hard currency savings by offering products and services to seller country-in lieu of foreign currency in counter-trade arrangements
- Encourage inflow of capital investments.

Leveraging for High-End Technology

Buyer countries often utilise offsets to leverage the transfer of technology into high technology sectors, such as aerospace and defence, as compared to off-the-shelf purchase.[16] For developing countries that are heavily engaged in industrialisation, offsets also fill the gap as a vehicle to obtain technology, thereby avoiding the high cost of 'reinventing the wheel' and as a partnering mechanism for engaging in collaborative development of cutting edge technological systems.

Job Creation

Offsets are also viewed as a vehicle to usher in employment into buyer

countries. Employment here refers not to only work in the high technology sectors, but also to simple manufacturing and assembly work. For example, Britain's Westland Company claims that the Apache programme has created up to 3,000 jobs in the domestic sector.[17]

Human Resource Development

Indirectly, the work provided through offsets may enhance local workforce skills and capabilities. Offsets significantly enhance worker skills due to the exposure to new product requirements. New orders can create opportunities for locals to acquire skills in new industrial areas while repetitive orders for similar jobs in the end could develop and further enhance their skills. In high technology sectors, such as aerospace and defence, offsets may benefit recipient firms in terms of training local manpower in areas of documentation, systematic industrial procedures and facilities management.

Hard Currency Savings

Offsets provide hard currency savings for buyer countries, especially when the deal involves barter or counter-purchase. Sellers will be forced to receive either goods or services in return for cash. Offsets also bring inflows of capital investment, which are crucial for developing countries. If the capital for investment is from the buyer country, this will cause a strain on the existing domestic entrepreneurs who are fighting to obtain capital from the pool of scarce capital resources.

Overview of Offsets Strategy and Implementation

In reality, the 'no one size fits all' condition makes offsets a complex tool to be applied in business practices. There are more than 130 countries around the world with some form of offsets policy. An offsets policy normally outlines the buyer country's offsets objectives and strategy, the various conditions imposed on suppliers, the details of the offsets process, the authority in charge, the implementation procedures and the penalties applied.

Offsets Strategy

Countries may employ different offsets strategies. The strategy selected will

largely depend on the offsets objectives of each nation. Country practices can be clustered into three different offsets strategies:[18]

- Use of offsets on a case-by-case basis.
- Approach based on 'best endeavours', where offshore vendors are encouraged to offer offsets in return for the sale of goods and services. The UK government follows this approach. It believes that the key ingredients for success are partnership, trust and vendor commitment. No penalties are imposed if the vendor fails to achieve the required 100 percent offsets target across the stipulated delivery period.
- A third and more rigid approach is one where offsets are obligatory and penalties are be imposed on sellers for non-achievement of offset obligations. Normally, a set amount is determined at the outset of the agreement to be mutually agreed between both buyers and sellers.

Offsets Implementation

At the implementation stage, it is vital to understand the various attributes, which are included in the offsets policy to ensure their smooth implementation. Both suppliers and recipients of offsets need to understand these attributes.

Fig 2.2 Essential Elements of an Offset Policy

- ***Offsets value*** is the first of such attributes. Most countries like to set a minimum offsets value. Offsets value refers to the percentage of offsets

required by a buyer government, valued against the total value of the equipment and services purchased. The minimum value will often vary between countries, ranging between 30-400 percent. The value is then further divided into direct offsets, indirect offsets, counter-purchase, and so on.

- ***Multipliers*** are crucial for countries aiming to attract certain types of offsets. Multipliers are defined as incentives used by buyer countries to stimulate particular types of offsets activities (US Department of Commerce). Defence contractors will receive additional credits towards their offsets obligations above the actual offsets value by introducing multipliers. A large number of countries around the world still do not use multipliers, as this practice can distort the actual value of a particular offsets transaction.
- ***Threshold value*** is the minimum determined value that purchasing countries require from suppliers that offer offsets. The offsets threshold refers to a minimum procurement amount set by buyer governments for sellers to include in the offsets package in their sale of goods and services.
- ***Implementation schedule*** is often included as part of the offsets agreement to ensure that the seller and buyer mutually agree to a timeframe in which the offsets obligations are to be completed. Normally, offsets obligations are to be completed by the end of the warranty period of the equipment purchased. Sometimes, offsets obligations can be longer than the warranty period.
- ***Banking of credits*** is another method used to attract offshore vendor investment. This is where sellers are allowed to 'bank' credits earned through projects done in advance or in anticipation of a sale. Some buyer countries provide such options to sellers. The benefit of banking offsets credits is that it enables sellers to run programmes in advance, in anticipation of future sales, and be able to claim for this against the existing project.

Offsets as a Tool for Defence Industrial Development

Offsets are viewed as a tool for achieving a self-reliant and resilient defence industry. Offsets are claimed to have had various impacts on the development of a nation's defence industry. These include technology development,

employment, skills enhancement, supply-chain development, and sub-contractor development and marketing. Nations around the world, view offsets as a tool to acquire capabilities to build their defence industries. Past examples have indicated that some nations have used offsets to develop capabilities to design, develop, manufacture, integrate and maintain equipment.

Technology Development

In relation to technological development of indigenous defence industry, offsets may not have resulted in producing the best possible outcomes. Numerous offsets activities have resulted in technology transfer. For instance, in the Spanish CF-18 Hornet deal, offsets helped Construcciones Aeronáuticas SA (CASA) develop its skills in the manufacturing of composite structural components for aircraft[19] When India bought MIG-21 aircraft from the Soviet Union in the 1960s under an offsets deal, the Soviets imposed restrictions on licensed production prohibiting India from exporting certain products to other countries. The Soviet Union was reluctant to provide complete technical information, withheld core technology and refused buy-back arrangements to India.[20]

Sustainability

Offsets receiving countries may negotiate projects obligating exporting countries to buy-back products produced with the transferred technology. An offsets deal with a buy-back arrangement can work only if the buyer country has the capacity and competitiveness to sustain the business momentum once the offsets programme ends. Otherwise, the buy-back process is likely to fail. Indonesian defence industries, heavily subsidised by the government, could not sustain their activities during the Asian financial crisis. IPTN (Indonesian Aerospace) had to downsize due to outstanding debts of $570 million, eliminating 5,000 jobs, and holding back projects, including the CN-235 and N-2130 transport aircraft.[21]

Skill Enhancement

Offsets are claimed to enhance the skills of local workers, if they are able to learn, adapt and enhance technology for local production. Nevertheless, offsets are said to contribute towards raising the buyer countries' worker

skills, only if the standards of low-skilled labour are raised through offsets programme. Military oriented activities have little real economic value if the skills acquired through military-oriented production are not easily and cost effectively transferable to the commercial sector.

Chapter 3
Review of the Global Offset Practices

Study hard what interests you the most, in the most undisciplined, irrelevant and original manner possible.

– Richard P. Feynman

How do Countries View Offsets?

About 130 countries worldwide have adopted offsets as part of their defence equipments procured ex-import.[22] Various countries have drawn on different offset strategies and policies for defence acquisitions. Several factors dictate the use of policy, including the state of the domestic economy, the skill set of the industry (workforce), infrastructure, foreign relations and national aspirations. A summary of the strategies and policies used by a selected set of 26 countries, covering different regions of the world is given at Appendix B. The selection of countries and regions is based on several factors, such as the importance of the region in international arms trade, history, conflict in the region and the specific country's or region's involvement as an arms importer and exporter.

Fig 3.1: Top 20 Military Offset Markets, 2014-2021

Source : Military Offsets & In Country Industrialization, Market Insight, Top 20 Offset Markets Frost & Sullivan

Study of Successful Global Offset Models

Nearly all governments make purchases of defence equipment and a majority of them have some form of offset policy associated with them.The objectives of the policy may vary, but are usually stated with a fair degree of clarity. One approach to the evaluation of offset programmes could be to make a general assessment, based on such empirical evidence, as is available, of the direction and degree of the achievements, viewed against the stated objectives. Another approach could be to look at the results for the buyer country of offset provisions embedded in particular defence acquisition programmes. From a survey of countrywide experience, it is also possible to discern common trends in the growth path of offset policies, which could impart useful lessons for the future.

Saudi Arabia

The Saudi Arabian policy has focussed on the need to transform the economy and to reduce the overall dependence of the country on the export of petroleum. Their economic plans prioritise the development of agriculture and industry; they seek to diversify the production base and improve the skill levels of workers for the benefit of the national economy. There is also an emphasis on promotion of private sector participation and encouragement to the investment of capital in business ventures within Saudi Arabia. ***Offsets have helped contribute to industrialisation of the Kingdom. They have also facilitated diversification of the economy and participation by the private sector in national economic development.***

A number of high technology ventures which otherwise may not have fructified, came into existence. Ventures that are lower in technology content but have favourable long-term business prospects, have also been established. As per the Secretary General of the Economic Offset Programme, as many as 36 industrial service projects have come up, with investments totalling about $ 4.5 billion. These projects have created more than 6,500 new job opportunities. In 2006, the total sales of the companies created under the offset programme reached $ 8 billion, and exports about $ 1.5 billion.[23] The main investments have been in the aerospace, electronic and electrical industries (13 percent), food and medicine (12 percent) and chemicals, pharmaceuticals and petrochemicals (6 percent).[24] It is not unusual for countries to use indirect offsets. ***India could take a lesson from Saudi Arabia that used the Peace Shield contract for barter, forging equal partnerships with local businessmen and used the indirect offset provision for setting up local production of the pharmaceutical, petroleum and food processing industries***.

Israel

The Israeli policy encourages industrial cooperation. ***Offsets aims to promote close cooperative working between Israeli and foreign firms, with the long range perspective of enabling the former to add value through such strategic partnering. In fact, the Israeli government agency that promotes and administers offsets is called the Industrial Cooperation Authority. By leveraging the unique skill sets of the workforce, within a period of about 50 years, the economy has been transformed from an agrarian to a fully industrialised, one, with special capabilities in niche markets such as medical aids and equipment, digital communication and information technology, defence electronics, advanced agricultural technologies, etc***.[25] Israel is today recognised the world over as a centre for highend technology. One of the important principles underlying the Israeli offset policy is that the projects and activities pursued under the programme should be of mutual benefit to both parties. The underlying intention is to forge long-term strategic alliances between foreign and Israeli firms, which will outlast the requirement of the offset contract; if the policy tries to extract too much out of the foreign firms, it will lead only to short-term

opportunistic projects and the offset partner will try to exit at the earliest opportunity.

Japan

Japan is a good example of a country which has utilised its strategic importance and favoured a relationship with a world superpower (US) to develop its indigenous defence industry in the post World War II years. ***A major source of the technology inflows into Japan came from defence offsets. Japan has received from the US licence rights for manyc types of defence equipment and systems. As per the US government data, between 1960 and 1988, licences for 28 major weapon systems were given to Japan. These include several programmes under fixed wing and rotary wing aircraft, aircraft parts, sub-systems, engines and missiles.*** Japan is now planning to revoke its ban on defence exports to start joint development of technology for export. Today, Japan is an industrial partner and financier of Boeing's new 787 Dreamliner with a major share of the complex work of designing wings. It recently flew the prototype of the indigenous Kawasaki XP-I maritime patrol aircraft and the prototype of the C-X transport aircraft is to follow soon. The XP-I will replace the US-built P-3 aircraft, which is nearing the end of its useful life. Japan has successfully benefited from its policy of local industry participation and transfer of technology from the US and other countries.[26]

Brazil

Brazil, though a peaceful nation, has always been a dominant force in the Americas. One of the principles underlying the Brazilian policy is that the country should be able to provide adequately for national security and should not depend for its protection on foreign arms. ***Development of the defence industry has, therefore, been a very important objective. It was also felt that the growth of the military industry would have the effect of stimulating the development of the civilian industrial sector as well, while helping the economy to gradually ascend the technology ladder***. The first big steps in the programme of military industrialisation of Brazil were taken in the late Sixties. Embraer Corporation, the Brazilian aeronautics major, was established in 1969. It proved to be a leader in

the absorption and indigenisation of foreign aeronautic technologies that accrued to it by way of offset deals. Embraer made good use of the excellent industrial and human resource base that had been painstakingly built up by the government. Embraer's first military plane, the EMB 326 Xavante trainer was manufactured under licence from Aeromacchi, Italy. SIVAM is a huge monitoring, surveillance, communications and air traffic control system for Brazil's Amazon basin area. It is a $1.4 billion contract and the collaborators are Raytheon, US, alongwith Embraer and other Brazilian companies. Small arms and ammunition have been manufactured by Brazil under licence from Italian, Belgium and British firms for a long time. Avibras, Brazil's missile producing company uses indigenous technology, but has had technology sharing arrangements with Canada, the former Soviet Union and China.[27]

Deductions from the Study of Global Offset Models

Offset Policy: ***Most countries have a central body to oversee offsets in their entirety, as per their national policy***. The UAE had set up an empowered offset group way back in 1990. It demands and negotiates offsets in varied fields like healthcare, shipbuilding and other industrial activities. It also seeks joint ventures with local partners. Its policy mandates that all sellers of arms to it must generate, within a period of seven years, commercially viable products worth 60 percent of the contract value. South Africa has a policy of seeking three-faceted offsets – about 20 percent of the contract value as direct defence oriented offsets, 45 percent as counter-purchase by the seller and 35 percent as foreign investment in South Africa. The Swedish policy on offsets gives primary importance to the creation of long-term employment opportunities in the country. It seeks newer markets for its goods to improve the balance of trade. It also demands technology and knowhow to ensure maintenance of the purchased defence equipment. The British defence industry was quick to grasp the increasing importance of offsets. The British Defence Manufacturers Offset Group was established in 1990. The members exchange knowledge on offsets and share expertise to deal with different countries. It is also creating a data bank wherein the offset policies of the major arms buying countries have been compiled to enable the members to negotiate effectively. In addition, the Defence Export Services Organisation under the British Ministry of Defence provides support and

offset advice to British arms exporters. It also administers the policies for seeking offsets from the producers who export to Britain. The British call it Industrial Participation (IP). Under the British IP policy, a minimum of 100 percent offset is essential for all contracts over £ 50 million for French and German companies, and £ 10 million for all others. It further stipulates that offsets have to be defence related, new, and of equivalent technical quality; and have to be fulfilled within the period of the main contract and at no extra cost. It permits both direct and indirect offsets. Incidentally, the UK's offset benefits exceed £ 5 billion, with the USA being the main provider. Countries of the erstwhile Communist bloc like Hungary, the Czech Republic and Poland are modernising their armed forces to make them compatible with the NATO forces. They have also become aware of their bargaining power and have evolved detailed offset policies.

Management of the Offset Programmes: Generally, it is for the buyer nation to decide as to what offsets to seek. It is a very crucial decision and demands careful consideration. It is not the type of offset but its relevance that should guide the selection. A study of global offsets reveals that these should be in consonance with the national economic objectives. They should be broad-based and fulfill an economic need. ***The success of any offset programme depends primarily on proper selection, detailed planning, close supervision and regular monitoring. Therefore, the whole process of offsets has to be managed in a well thought out and coordinated manner***.

Inter-Ministerial Synergy: Most countries have an inter-ministerial management arrangement for offsets, ie., apart from the Ministry / Department of Defence, the Commerce, Economic and even Industry Ministries are also involved in assessing, negotiating and absorption of offsets. ***In fact, data from global examples proves that the national offset endeavour is often led by the Commerce Ministry instead of the Defence.***

Offsets as Drivers for International Growth: Although they are not usually reported in annual filings, offset contracts are increasingly becoming a C-suite agenda item. Over the past 20 years, US defence contractors have typically entered into an average of 30 to 60 offset agreements each year, representing between $3 billion and $7 billion in obligations per year. Lockheed Martin, the world's largest defence contractor, reported $9.3

billion worth of outstanding offset agreements as of year-end 2012, and a recent analysis by the *Financial Times* and *IHS Jane's* estimated that ten other companies have accumulated obligations in excess of $1 billion each.[28] ***Offsets are a critical enabler for success in international markets for several reasons***. Firstly, customers take them very seriously; governments count on the local investments that offsets generate to justify the capital expenditures required for their defence upgrades and to correct imbalances in foreign trade. In fact, governments sometimes give offset packages equal or greater weight than procurement costs when evaluating competing bids. In Korea's assessment of bidders for its F-XIII fighter programme, for example, proposed offsets and technology-transfer arrangements accounted for 17 percent of the total evaluation "score" while acquisition costs accounted for 15 percent. The government also considered a number of other factors, including mission capability of the aircraft (35 percent), technology compatibility (18 percent), and operational costs (15 percent).[29] Secondly, offsets helped the Western companies tap into markets that were otherwise difficult to access. Relationships with local partners are part of the table stakes in major military-procurement competitions, so it is common for contractors to propose offset agreements aimed at developing industrial relationships through joint production or development. Israeli manufacturers have built a top global position in the export of unmanned aerial vehicles in part by cultivating robust local relationships, including joint ventures in Brazil and other emerging defence markets. A number of Western defence contractors have already realised success in international markets, in part through sound offset strategies. For example, Lockheed Martin's 2003 win in Poland's Peace Sky fighter competition was enabled by a competitive offset package. Its unprecedented offset offer was valued at more than $9 billion and included 55 defence-sector programmes and 49 programmes benefiting the Polish economy overall. Trade journals and the military press cited Lockheed's offset package as a major reason why its F-16 was selected over competing aircraft, and that deal set the bar for others that followed.[30] Meanwhile, Boeing, in 1985, established the Boeing Industrial Technology Group to fulfill offset obligations related to the sale of its Peace Shield land-based air defence system to Saudi Arabia. Through this entity, Boeing has participated in education and training programmes in the region and has partnered with Saudi

Arabia's General Investment Authority as well as numerous other economic-development bodies in the Kingdom.[31] Over time, Boeing has deepened its business relationships in the region, selling F-15 fighters and AH-64 Apache helicopters, along with relevant upgrades and sustainment packages, to the Saudi Ministry of Defence.

The Risks Profile of Offsets: As the examples studied suggest, proposing the right offset package can yield tremendous gains. Successful negotiated offset agreements can create win-win situations, generate economic impact or technological advantages for the purchasing country and profits for the contractor**. *If the process is not managed properly, offsets can also pose significant competitive, legal, and reputational risks***. Contractors who have acted improperly in fulfilling their offset obligations, or have proposed programmes that failed to produce the intended impacts, have been subject to any number of penalties—among them, Congressional inquiries, reputational damage associated with broken contracts, inclusion on "black lists" of companies restricted from bidding on public procurements in specific countries, and investigations under the US Foreign Corrupt Practices Act and the UK Bribery Act. Over the past few years, several nations have introduced reforms in their offset policies that are raising the bar for contractors' industrial participation and prompting customers to judge bids and enforce offsets with refined criteria for success. The United Arab Emirates' Offset Programme Bureau (recently renamed the Tawazun Economic Council) in 2010 announced several reforms, including a detailed set of multipliers to target investments at priority investment areas, as well as penalties for underperforming programmes--for example, payment of damages for partially fulfilled or unfulfilled offset obligations. Another risk over the long term is increased competition from companies that have gained key capabilities through offsets.

Engagement by Foreign Vendors: ***Foreign vendors have realised that it is critical for them to understand who the most important stakeholders are and how to engage with them***—for some customers in the Middle East, a select few people serve as the primary decision-makers in defence acquisition, while in South Korea, approval from several government bodies is required for any major military procurement. ***Defence companies have begun to develop a strong sense of the competitive landscape***

and how they can best differentiate themselves from rivals. Important questions that foreign vendors ask themselves include, "What types of offset packages have our competitors offered?" and "What sorts of relationships do we already have in the area that we can leverage?" since companies may be able to take advantage of contacts that their colleagues in other business units (other than the one responsible for the original contract) might have in the region. Lockheed Martin included a military-communications satellite in its offset proposal for Korea's F-X fighter programme—drawing on resources from other parts of the company to more closely target its offer to the customer's needs.

Chapter 4
An Analysis of the Indian Defence Offset Policy and its Success So Far

You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.

– Richard Buckminster Fuller

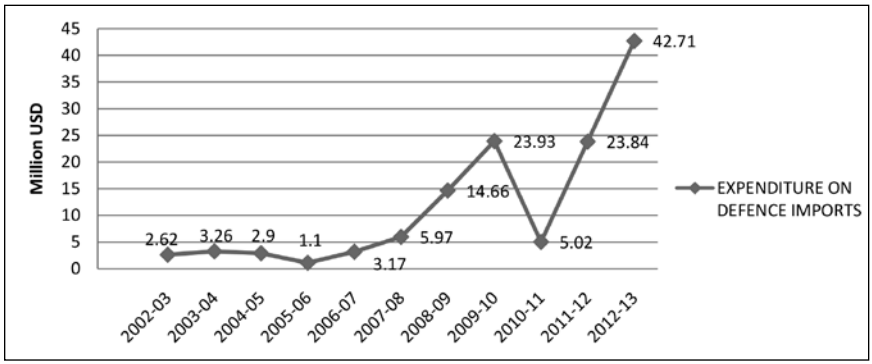
History of India's Defence Offset Policy

India inherited some defence industries from Great Britain. They included Hindustan Aeronautics Limited (HAL), which is today India's largest DPSU, Mazagon Docks Limited (MDL), the largest shipyard in the nation and more than half a dozen ordnance factories. The growth of domestic defence industry has, however, been sporadic since our independence. In fact, indigenisation did not follow any definite plan, though emphasis was placed on enhancing indigenous defence production capability.

Some analysts have also traced a certain amount of vigour in the Indian effort at developing an indigenous defence capability to the early 1960s, spawned by the 1962 India-China War.[32] It underscored the urgency of building a domestic defence industry through foreign assistance. It went hand-in-hand with Nehru's policy of building a strong industrial-base-patterned-on-the-Soviet model. Though the war has been identified as the milestone in developing a domestic defence base, there was no concerted, systematic and well orchestrated effort that yielded any tangible results[33]. Many factors have stood in the way of India building a strong military industrial base. India's comparatively easy access to various types of defence equipment from the former Soviet Union and their purchase against deferred rupee payments and on "friendship" prices were some of them. Sophisticated defence equipment was transferred to India under the favourable 'rupee-rouble' arrangements from the Soviet Union. Some licence production facilities were established in India, for MIG-21aircraft, for instance. The Cold War also ensured that India continued to have a favourable and preferred source of defence systems and

equipment from Soviet Union. The collapse of the erstwhile Soviet Union led to the loss of easy access to sophisticated defence equipment at cheap prices. India was suddenly confronted with the absence of any dependable alternate source of modern defence equipment. At about the same time, India's economic prospects brightened after it embraced the policy of liberalisation in the 1990s. India is today the largest importer of arms and equipment in the world (see Fig 4.1). In order to leverage India's buying power and to achieve greater self-reliance in defence production, the Indian MoD introduced the Defence Offset Policy (DOP) as part of the DPP. The DPP, which has now been revised several times, was first released in 2001 to tackle the conflicting requirements of expeditious acquisition of defence equipment, promoting and developing domestic defence production capabilities and ensuring transparency and public accountability.

Fig : 4.1 : Expenditure on Defence Imports: Arms and Ammunition, Parts and Accessories



Source: Export and Import Bank of India.

Evolution of Indian Offsets

For almost 45 years after India's independence, defence contracting was governed by the general financial and accounting rules that were primarily aimed at acquisitions for civilian agencies of the government. A separate procedure for Indian defence procurements came into being only in 1992 and these procedures were revised with the creation of new defence procurement management structures and systems in 2001 as a part of the

implementation of the report of the Group of Ministers (GoM) on reforming the national security system, post Kargil. The evolutionary journey of Indian offsets has been traced out and is graphically depicted at Appendix C.

DPP-2002

Continuous efforts have since been aimed at procurement reforms, which finally culminated in the issue of a consolidated set of regulations, termed "Defence Procurement Procedure - 2002" (DPP-2002), which came into effect wef December 30, 2002. However, there were no provisions or procedures dealing with offsets in these regulations.

DPP-2005

Offsets were implemented in the revised "DPP-2005, which came into effect-from July 01, 2005. The Services Capital Acquisition Plan Categorisation Committee (SCAPCC) was authorised to recommend the inclusion of an offset clause amounting to 30 percent of the indicative cost in the Request for Proposal (RFP) in cases where the indicative cost was INR 300 crore or more. The policy also gave freedom to foreign vendors to discharge their offset obligations either through the execution of defence exports of Indian items and services or through investments in India's defence infrastructure. The foreign vendors in addition were given the liberty to select Indian firms in consultation with the industry associate of their choice to implement their offset programmes. ***The hallmark of this policy was its non-obligatory nature***.

DPP-2006

This minimalist regulatory framework was modified in the revised DPP 2006, when the use of offsets was made applicable only in the case of procurements categorised as "Buy (Global)" or "Buy and Make with ToT", but the range of options for discharge of offset obligations was considerably expanded. Many changes were made in the policy and they included the following:

- ***Offsets were made mandatory*** in all defence contracts of INR 300 crore or more.
- Foreign firms were allowed the flexibility of forming Joint Ventures (JVs) with Indian entities.

- Inclusion of private Indian defence industry as a vehicle for the discharge of offset obligations.
- ***A new organisation called the Defence Offset Facilitation Agency (DOFA) was established*** consisting of representatives of stakeholders (Services, DPSUs, DRDO), as a specialised agency under the MoD that was to function as a single window entity in assisting the ministry in dealing with offset contracts.[34]

DPP- 2008

By 2008, India emerged as one of the largest importers of defence equipment, with nearly 70 percent of its requirements being met ex-import. The demand of the Indian armed forces outstripped India's defence budget. DPP- 2006 was superseded by a new set of regulations issued in July 2008, titled DPP-2008, which came into effect from September 01, 2008. The salient features of the offset policy, as announced in 2008, included the following:[35]

- The introduction of a list of products, which qualify for the discharge of offset obligations.
- ***The removal of the clause mandating/ requiring private industry to obtain industrial licences to participate in an offset programme***.
- ***The introduction of offset credit banking***.
- The requirement that banking of surplus offset credits to be effected within the two years following the conclusion of the main contract.
- ***The introduction of exemptions from offset obligations for Fast Track Procedure (FTP) schemes***.

DPP-2011

The DPP was revised again in 2011 so as to make defence procurements more transparent. ***The significant change introduced by DPP-2011 was the inclusion of internal security and civil aerospace industry as offsetable products***[36]. This opened up the market in homeland security to Indian Small and Medium Enterprises (SMEs). Eligible services included engineering Research and Development (R&D), Maintainance and Repair Organisation (MRO) and training in the civil aerospace industry. Offset obligations in respect of procurements made under the DPP could be discharged directly or by any combination of,

- Direct purchase of, or executing export orders for, eligible products and components manufactured or services provided, by DPSUs, the Ordnance Factory Board and private Indian industry.
- Foreign Direct Investment (FDI) in Indian industry for industrial infrastructure for services, co-development, joint ventures and co-production of eligible products and components.
- Discharge of offsets 'services', meaning maintenance, overhaul, upgradation, life extension, engineering, design, testing of eligible products, and related software or quality assurance services with reference to eligible products as indicated in the DPP, and training.
- FDI in Indian organisations engaged in R&D, as certified by DOFA.
- Foreign companies could create offset programmes in anticipation of future obligations. Offset credits acquired could be banked and discharged against future contracts. Banked offset credits were, however, only transferable between the prime contractor and its sub-contractors within the same procurement. The prime contractor was required to submit a list of its sub-contractors at the time of signing the contract.
- Besides the specific changes for levelling the playing field for private defence manufacturers, several provisions of the acquisition procedure were tweaked to make the process more vendor friendly and efficient.

DPP-2013

The Defence Offset Guidelines (DOG) were again revised in August 2012 under a committee headed by the Director Genrral Acquisition (DG Acq), MoD. These were included in the Revised DPP 2013 which came into effect wef June 01, 2013. The offset proposal processing process is given at Appendix D. The salient highlights of the new policy are,[37]

- ***The revised policy recognises ToT as eligible for discharge of offset obligations***. The list of avenues for discharge of offsets is given at Appendix E.
- **The objectives of defence offsets have been spelt out clearly in the revised policy so as to leverage capital acquisitions to develop Indian defence industry** by,
  - Fostering development of internationally competitive enterprises.

- Augmenting capacity for research, design and development related to defence products and services.
- Encouraging development of synergistic sectors like civil aerospace and internal security.

- The revised provisions also made a distinction between equity and non-equity route investment in "kind" made by the Original Equipment Manufacturer (OEM) for discharge of offset obligations. Investment in kind in terms of ToT must cover all documentation, training and consultancy required for full ToT (civil infrastructure and equipment excluded).
- ToT should be provided without a licence fee and there should be no restriction on domestic production, sale or export. The offset credit for ToT shall be 10 percent of the value of buy- back by the OEM during the period of the offset contract, to the extent of value addition in India.
- ***Technology acquisition by DRDO for a list of specified technologies will be treated as an eligible offset with a multiplier upto three (3)***.
- The revised guidelines allow offset obligations to be discharged within a timeframe that can extend beyond the period of main procurement contract by a maximum period of two years.
- ***Banked offset credits will be valid for a period of seven years***.

Applicability and Quantum of Offset Obligations

Initially, in DPP- 2005, offset provisions were to apply to all contracts with an indicative cost in the RFP of INR 300 crore or more, as previously mentioned. The application of offsets was restricted in DPP-2006 to capital acquisitions categorised as "Buy (Global)" and "Buy and Make with ToT" where the indicative cost in the RFP was INR 300 crore or more. When offsets were first introduced in 2005, the quantum of offset obligation was fixed at 30 percent of the contract value. Offset percentages have since been retained at 30 percent of the indicative cost of acquisition in 'Buy (Global)' category acquisitions and 30 percent of the foreign exchange component in 'Buy and Make with ToT' category acquisitions since the promulgation of DPP-2006. Also, DPP-2005 had permitted the SCAPCC to recommend higher offset percentages, while DPP-2006 allowed the Defence Acquisition Council (DAC), headed by the Raksha Mantri to prescribe varying offset percentages above 30 percent for individual cases or a class of cases

depending on factors such as the strategic importance of the acquisition or technology, the enhanced ability of the Indian defence industry to absorb the offset, the export potential generated, etc. Under DPP-2008, the DAC was authorised to prescribe higher offset percentages or, in very special cases, to waive off the requirement entirely, depending on the DPP-2006 criteria and/or the type of acquisition. DPP-2006 also envisaged that the minimum offset percentage for the following two years would be prescribed based on a review of the experience of implementing these provisions. However, as of now, the DAC can prescribe higher percentages depending on a number of relevant factors for individual cases and/or a class or cases.

Since the mandatory offset threshold as per the DOG is 30 percent, in effect for a scheme having an estimated cost of INR 300 crore, it would translate to a meagre INR 90 crore, as offset to be discharged by the foreign vendor. It is prudent to study and analyse if the key objectives of the offset policy are achieved with a capital investment of INR 90 crore, keeping in mind the rupee- dollar fluctuations prevalent in the Indian market. There may, therefore, be a case to increase the threshold to at-least 50 percent so as to achieve any viable payoffs from the offset obligations.

Offset Contract Administration

Defence Offset Facilitation Agency (DOFA)

Both DPP-2006 and DPP-2008 envisaged an important role for DOFA in assisting the MoD in the formation and monitoring of offset contracts. The roles and responsibilities of DOFA, as mandated by DPP-2006, include facilitating the implementation of the offsets policy by:[38]

- Assisting in the vetting of offset proposals technically;
- Assisting in monitoring the offset provisions;
- Suggesting improvements in the policy and procedures;
- Interacting with the Integrated Defence Staff (IDS) and Sevices Headquarters (SHQ);
- Advising, in consultation with the IDS, the Services and DRDO, areas in which offsets will be preferred;
- Promoting exports of defence products and services; and

- Providing advisory clarifications on the policy and procedures (in consultation with the Acquisition Wing of the MoD, wherever necessary).

DOFA was also to assist potential vendors in interfacing with the Indian industry in identifying potential offset products/projects. One of DOFA's mandates was to assist the technical committee in evaluating offset proposals and to advise the high-powered Computer Numerical Control (CNC), whenever required. Taken together, these provisions would appear to have placed DOFA in an extremely important role in assisting the parent MoD in the evaluation of offset proposals and in the monitoring of offset contracts. Ironically despite such a defined and powerful charter, DOFA had mainly officials who worked part-time in the organisation. It was headed by the Joint Secretary (Exports), DDP MoD, and had a supporting structure which included the Director of Planning and Coordination as its Member Secretary and members from the armed forces to assist in the functioning of the organisation. DOFA now had no specified role in assisting the concerned Acquisition Manager in monitoring the implementation of offsets and such responsibilities were taken over by the "Offset Monitoring Cell" in the MoD and by the MoD's representatives, respectively.

Defence Offsets Management Wing (DOMW)

Considering the experience with offsets since 2005 and taking note of certain difficulties and ambiguities which had cropped up during implementation, the DAC, during its meeting on December 14, 2010, directed that a committee be created under the DG Acq to undertake a comprehensive review of the offset policy as well as institutional arrangements and recommend changes, as appropriate.[39] The DOMW under the DDP was, thus, created as part of the revised offset guidelines in August 2012 and entrusted with the following responsibilities:[40]

- Formulation of Defence Offset Guidelines;
- Monitoring the discharge of offset obligations, including audit and review of progress reports received from vendor;
- Participation in technical and commercial evaluation of offset proposals as members of Technical Offset Evaluation Comitte (TOEC) and CNC;
- Implementation of offset banking guidelines;

- Administration of penalties under offset contracts in consultation with the Acquisition Wing;
- Assisting vendors in interacting with Indian industry; and
- Other responsibilities assigned under offset guidelines or entrusted by the government.

The role and charter of DOMW has not altered much from its earlier avatar (DOFA). The DOMW organisation is as given at Appendix F. The DOMW was conceptualised as a single window for defence offsets, but with limited resources in terms of trained manpower (it has only five officers – one each from the three Services, OFB and HAL), it is likely to land up being a toothless tiger like DOFA. Among one of the major observations is that the DOMW does not even vet the offset contract (which is concluded by the DG Acq); in such case, how can it ensure the successful implementation of an offset programme? The responsibility for pre-contract vetting and analysis remains with the DDP and Acquisition Wing, while post-contract signing, it shifts to DOMW for monitoring. The monitoring is also limited to documentation and compilation of periodic reports submitted by the prime contractor on the offset programme implementation progress. It has no means of verifying the veracity of the vendor claims and the actual implementation remains in the ambit of the foreign vendor and IOP, sans transparency. This aspect needs to be streamlined for a better and more accountable structure. In fact, the erstwhile DOFA was being managed by the Secretary Defence Production alongwith the Director, P&C, who had hands-on knowledge on the management of offsets. The present team at DOMW has fairly young officers from the Services, with approximately eight to nine years service managing offset programmes, with no formal training and past experience and looking towards tenanting a two to three years tenure, and this may defeat the purpose of the empowered DOMW. It also lacks representatives from the private defence sector, Ministry of Commerce, Ministry of Company Affairs and Micro Small Medium Enterprises (MSMEs) as well as the legal fraternity.

Further, the revised guidelines of 2012 designate the DOMW with the sole responsibility of ensuring a smooth offset process under a

separate Joint Secretary (JS, DOMW). Ironically, even after more than two years of the revised guidelines coming into effect, no JS has been posted to DOMW and the duties are being taken care of by JS Naval Systems as additional charge.

DOMW is also required to submit an annual report to the Council (DAC) on the progress of various offset programmes, however, the first report is yet to be prepared and presented.

Banking of Offset Credits

DPP-2006 provided that only contracts for the export of defence products or services or investment made after the signing of the main contract would be reckoned for discharging offset obligations. This was perceived by the Indian industry to be unduly restrictive and there had been an important demand for bringing in provisions for the banking of offset credits for greater flexibility in planning for the discharge of offset obligations by vendors. The origin of these demands lay in the fact that it is possible for a vendor to end up discharging offset obligations in excess of the legally required minimum. Vendors may even wish to generate potential offset credits through programmes undertaken prior to the award of the main contract. The 2008 procedure introduced offset banking and prescribed guidelines for offset banking. The guidelines required offset credits to be used within two years. ***Most significantly, defence procurements in India take longer than two years to come to fruition. This makes compliance with offset credit banking obligations impracticable and is hindering their effectiveness. Fortunately, the error has been addressed in the revised guidelines by increasing the period to seven years***.

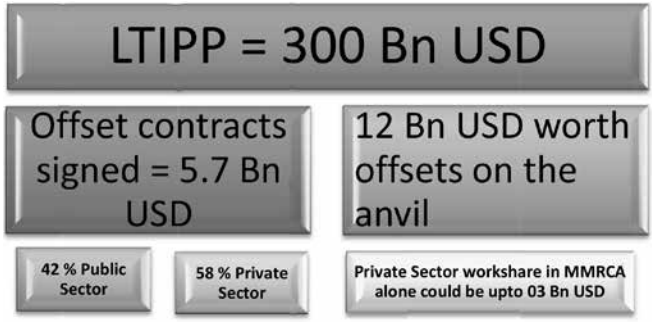
The revised offset guidelines grant recognition to offsets at the time of approval. Recognition at the time of approval, as opposed to recognition at the time of offset activity, may not only create an incentive to a vendor to file a claim as late as possible, but even for the vendor to file an incomplete claim in order for its resolution to take a considerable amount of time so as to enable the vendor to get a date of approval of the offset that is as late as possible. It may, in fact, merely constitute an ongoing business transaction, rather than serving to achieve the benefits that the offsetting of contracts seeks to achieve.

The banking provision is, however, allowed in case of purchase from, investment in, and technology/equipment transfer to, Indian industry (technology acquisition by the DRDO and government establishments/ institutions have been excluded from the banking purview). ***Like the previous guidelines, the revised DOG also does not permit offset trading by restricting transfer of banked offset credits to the main supplier and its sub-suppliers within the same acquisition proposal***. However, unlike the previous version, the revised document has stipulated that the pre-approved banked credits cannot be used for more than 50 percent of total offset liabilities arising out of a future procurement contract. This would mean that a foreign company would require at least two procurement contracts to discharge its banked offsets credits. To ensure that the banking proposals of the vendors are considered in a time-bound manner, the DOG has provided an eight-week window to dispose of such cases.

An Evaluation of the Indian Offsets Experience

The Technology Perspective Capability Roadmap (TPCR), an unclassified version of the Long Term Integrated Perspective Plan (LTIPP), was promulgated in August 2012 with an aim to share with the defence industry details of impending defence procurements over the next 15 years. This would give the domestic defence production sector a fair opportunity to forge alliances, ink MoUs and form JVs with global OEMs.

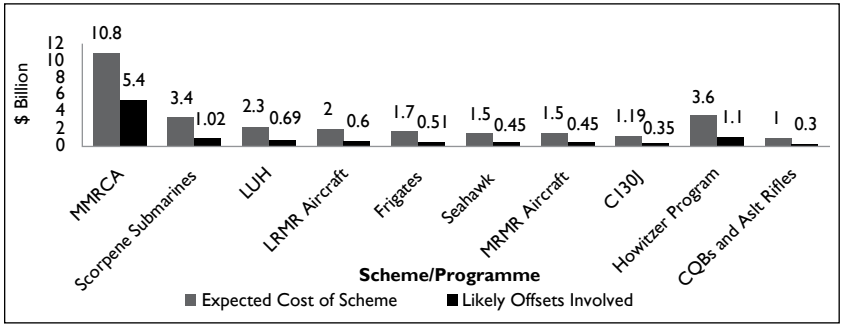
Fig 4.2: Indian Defence Offset Market Potential



Source: CII Conference, 09 April 2013

Minister of State for Defence, Shri Rao Inderjit Singh in a written reply to Shri Kirti Azad, Member of Parliament, disclosed in the Lok Sabha on August 01, 2014, that foreign vendors are discharging their offset obligations, by and large in accordance with the signed offset contracts. He further stated that till date, a total of 24 offset contracts had been concluded and these offset contracts were currently in the implementation stage with the execution period of certain contracts extending till 2022. The Indian Offset Partners (IOP) through whom the vendors are executing offset obligations are from both the public and private sectors.[41] However, details of only 23 offset contracts could be ascertained from open sources, viz the Press Information Bureau and interaction with the industry. These are as tabulated at Table 4.1. Schemes worth approximately US $ 11 biliion are on the anvil (details are at Table 4.2).**Neither was any information was made available by DOMW and nor were the inputs as obtained from other sources authenticated, on account of having signed a Non-Disclosure Agreement with the vendor and IOP**.

Fig 4.3: Major Offset Deals in the Pipeline



Source: Compiled from open source data

Effect of Offsets on the Indian Industry

With about $ 06 billion worth of the offset market in India (only for the inked offset contracts so far), it would be pertinent to examine the benefits that accrued to the Indian industry (public and private sectors) and ascertain whether the objectives of the offset policy have been achieved.

Table 4.1: Details of Indian Offset Programmes

S No	OEM	Programme	Service	DPP Version	Offset Contract Date	Offset Value (Mn USD)	Offset Discharge Avenue		IOP
1.	Elta, Israel	Medium Power Radars	IAF	2006	Oct 16, 2007	5.4	Manufacture		Astra Microwave Products Ltd, L&T
2.	Rosoborone Exports, Russia	MIG-29 Upgrade		2006	Mar 07, 2008	308.27	Training simulator and manufacturing		BRD
3.		Mi -17 V5 Helicopters		2006	Dec 16, 2008	405.07		TATA, L&T	
4.	IAI, Israel	Harop (PIV) UAV		2006	Apr 13, 2009	44.31	NK		NK
5.	Boeing, US	P 81 Long Range Maritime Recce (LRMR) ASW Aircraft	IN	2006	Jan 01, 2009	641.26	Metallurgy and hydraulic lab facility, Composite manufacturing, tooling, Aero structures tools & processes and training		Wipro, HCL Tech,HAL, Dynamatics Tech, Macnet Tech, L&T, BEL, Maini Aerospace
6&7	Fincantieri, Italy	Fleet Tanker		2006	Apr 23, 2008 + Mar 31, 2009	55.28 + 55.28	NK		BEL

8.	Lockheed Martin, US	C130 J	IAF	2006	Mar 06, 2009	219	Training Simulator	Mahindra, QuEST, BEL
9.	IAI, Israel	EO/IR Recce pods for Jaguar		2006	Jun 02, 2009	21.08	NK	HAL
10.	Thales, France	Low Level Transportable Radar (LLTR) Radar (LLTR)	IAF	2006	July 29, 2009	34.75	Manufacture	BEL
11.	IAI, Israel	Air Route Surveillance Radar (ARSR) Radar	IN	2006	Nov 06, 2009	11.16	NK	NK
12	Augusta Westland, Italy	AW 101 VVIP Helicopters	IAF	2008	Feb 08, 2010	224.14	Software, training	TATA
13	IAI, Israel	Unmanned Aerial Vehicles (UAV)	IN	2006	Jul 04, 2010	80.77	Manufacture	NK
14.	Textron, US	Sensor Fused Munitions	IAF	2008	Nov 15, 2010	102.54	Manufacture	Bharat Forge
15.	Honeywell, US	Re-engine programme for Jaguar		2008		600	NK	NK
16.	Boeing, US	C 17 Globemaster (through FMS route)		2008	Jun 14, 2011	1091.7	High Altitude Engine Test Facility, Transonic Wind Tunnel (TWT) Facility, Training and maintenance Defence strategic communication systems	DRDO, TCS, HAL, Defence Land Systems

17.	Thales, France	Mirage 2000 Upgrade		2008	Jul 29, 2011	592.81	Manufacture	HAL, Samtel Display Systems, TATA	
18.	MBDA, France	MICA IR/RF Missiles for MIRAGE 2000		2008	Jan 31, 2012	386.40	Overhaul, upgrade and training	NK	
19.	Pilatus, Switzerland	PILATUS P-7 Basic Trainer Aircraft		2008	May 24, 2012	150	NK	HAL	
20.	Rafael, Israel	New Generation Precision Guided Munition		2011	2012	30	NK	NK	
21.	Elbit Systems, Israel	Integration of Thermal Imaging Sights (TISK) on BMP II (TISK)	IA	2013	Mar 15, 2013	24.17	Manufacture and integration	NK	
22.	IAI, Israel	UAVs		2013	Dec 30, 2013	77.35	Manufacture of parts of UAV	NK	
23.	Elbit Systems, Israel	Thermal Imaging Fire Control System (TIFCS) upgrade for Tk T-72		2013	Mar 19, 2014	86.98	Direct purchase of products and components	BEL, Alpha Design Tech	
	Total					5247.72 Mn USD			

Source: Compiled from CII inputs,
Indian Defence Offsets : A Guide, Revised Edition August 2012, Q Tech Synergy and open source data

Table 4.2 Details of Offset Contracts Concluded

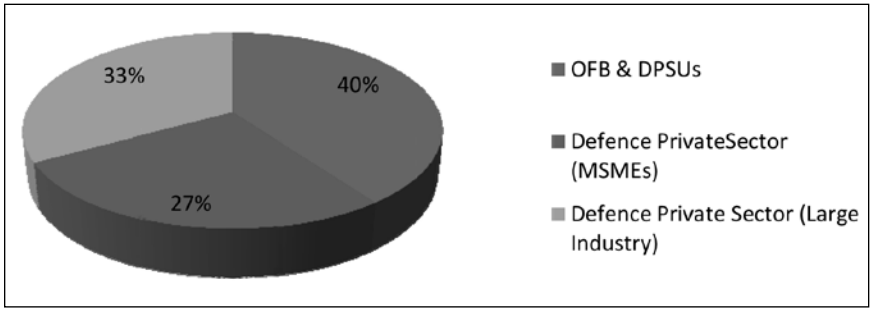
Entity	Sector	No of Contracts	Value (INR in Crores)	
HAL	Public Sector	06	1928	INR 3504 Crores
BEL		06	1576	
Tata	**Private Sector**	04	1466	INR 4247 Crores
L&T		07	771	
Alpha Design		02	575	
M&M		01	984	
HCL		01	235	
Wipro		01	216	
	Total	28		INR 8231

Source: CII Conference, April 09, 2013

India is currently importing defence equipment worth about INR 50,000 crore (approximately US $ 09 – 10 billion) annually at an average.[42] Taking the minimum offset liability of 30 percent, about US $ 3.3 billion worth of offsets must be discharged annually. ***Most global aerospace industries have, therefore, started to look towards India as a hub for development of technology, outsourcing of aerospace engineering and manufacturing***.

The spread of contracts signed so far indicates a 40 percent share to OFB and PSUs, with SMEs and the large private sector industry bagging upto 60 percent of the contracts.

Fig 4.4 Industry Share : Indian Defence Offsets Contracts



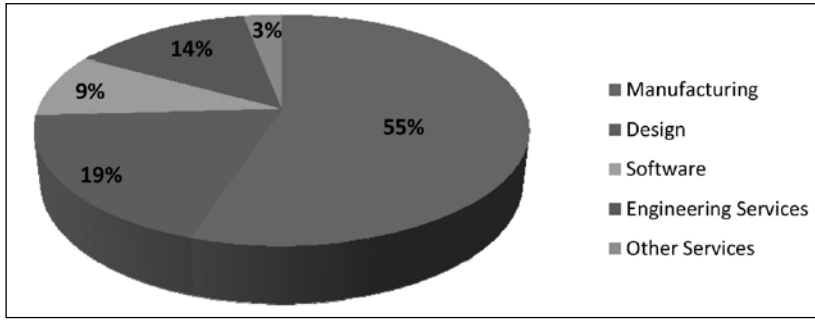
Source : *Indian Defence Offsets : A Guide,* Revised Edition August 2012, Q-Tech Synergy

Deduction: The major beneficiary of offsets till 2011 has been the private sector.

An analysis of the types of offset contracts concluded has also been undertaken and reveals:

- ***94 percent of all planned offsets are in the aerospace sector*** while the remaining 06 percent covers the manufacture of naval systems. The investment into R&D has been negligible.
- ***The major area of offset realisation is sub-contracting***. Sub-contracts involving the supply of fuselage, cabins, radome, tail cone, data link, etc. constitute approximately 56 percent of the pie.
- Engineering projects and project management constitute 05 percent.
- Overhaul and repair facilities (15 percent).
- Simulators, training facilities (17 percent).
- Ground handling/ support equipment (07 percent).
- The bulk of offsets are for direct purchase and sub-contract. Investments and co-production get a secondary pie.
- For joint development programmes, the foreign OEMs show a distinct predilection to partner with well known Indian private sector companies like Tata, L&T, M&M rather than DPSUs/ OFs.

Fig 4.5: Major Areas of Offset Realisation



Source: *Indian Defence Offsets : A Guide,* Revised Edition August 2012, Q-Tech Synergy

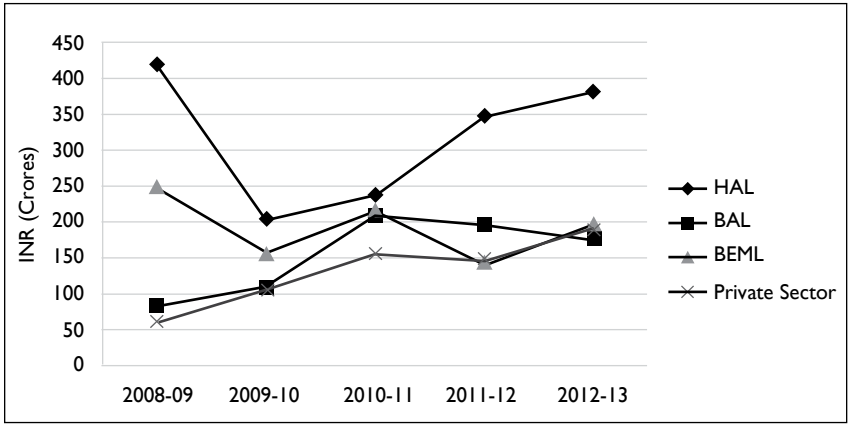
Impact on Defence Exports

An analysis of the growth of defence exports by Indian industry reveals the following:

- Defence exports are a fair indicator of the impact of the infusion of offsets in the defence industry.

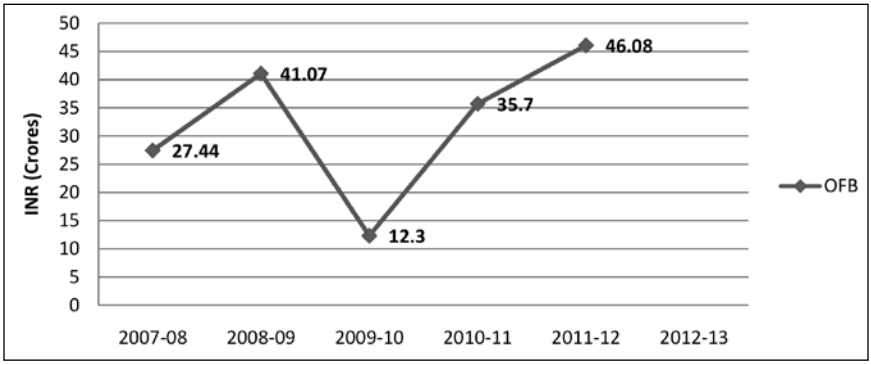
- Defence exports are being undertaken primarily by DPSUs and OFs. Clarity on licensing norms and formulation of a restricted defence export list to include the private defence sector is lacking on the part of the government. Though Department of Industrial Poilcy and Promotion (DIPP) has recently published the defence export list, there is enormous ambiguity as regards dual use technologies in aerospace and defence as well as export of assemblies and sub-systems of defence platforms. There is no consolidated list of defence goods in India.
- Defence industry exports can broadly be divided into high, medium and low technology related trade. While the DPSUs and the Indian private sector have mainly contributed to export of medium grade technology items, the OFs' exports have mainly accounted for low technology items such as parachutes, skid boards, helmets, etc. These categories have, therefore, been segregated and dealt with separately at Figs 4.6 and 4.7 below.
- There is a need to liberalise the export policies based on internationally recognised agreements such as the Wassenaar Arrangement and Missile Technology Control Regime (MTCR) without compromising Indian national interests.

Fig 4.6: Defence Export Data



Source: Compiled from Directory: Indian Defence & Security Companies 20914 and open source data

Fig 4.7: OFB Export Data



Source: Compiled from Annual Reports of OFB and CAG data

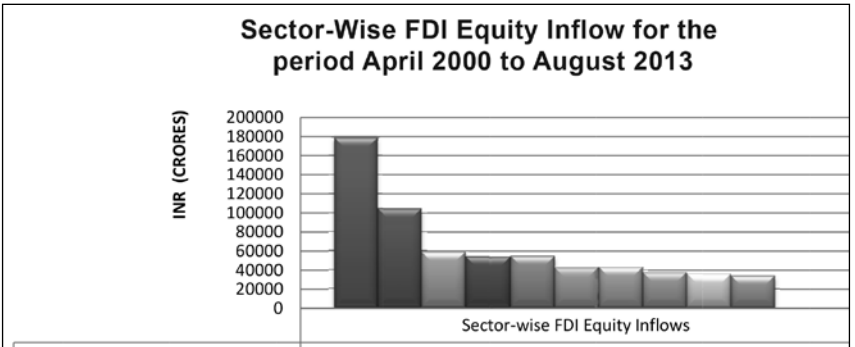
FDI and Joint Ventures

The response to FDI in defence production, R&D and creation of JV arrangements has been rather lukewarm. This can be established from the fact that FDI in defence is ranked at 61 out 63 sectors for cumulative inflows wef April 2000 to August 2013, in which FDI has been accepted by the Government of India, with a meagre INR 24.367 crore. As per reports in the media, India has received less than US $ 5 million of FDI inflow in defence manufacturing during the last decade.[43] ***Most prospective foreign investors consider the Indian FDI policy in the defence industry to be dissuasive in intent and content. The erstwhile cap of 26 percent on FDI in defence was always a non-starter.*** No foreign investor is going to part with closely guarded technology unless he has adequate control over the enterprise and is assured of sufficient autonomy as regards capacity enhancement and market access to ensure commercial viability through economies of scale. The recent raising of the FDI limit to 49 percent is a step in the right direction and will yield positive results in the near timeframe. A sector-wise FDI inflow into India for the period is given at Fig 4.5.

Though a large number of JVs have been formed between global OEMs and the Indian defence industry, including an equally large number of Memoranda of Understanding (MOU) being signed between

them for creating unique and profitable business models, the success of these by far has been fairly disheartening. Only the BrahMos model between India and Russia has been rendered successful and worth a mention. The others are yet waiting for orders and to be given a level playing field to prove their success. In 2012, the government revised the JV guidelines, permitting the formation of JVs between global players and DPSUs, with an aim of infusing efficiency and market dynamics.

Fig 4.8: FDI Infusion in India



Services Sector (1)	1,79,150.49
Construction Development : Townships, housing, built up infrastructure (2)	1,04,611.89
Telecommunications (3)	58,867.47
Computer hardware & software (4)	54,249.55
Drugs & Pharma (5)	54,778.38
Chemicals other than fertilisers (6)	42,595.08
Automobile industry (7)	42,894.67
Power (8)	37,358.46
Metallurgical industries (9)	36,162.59
Hotel & tourism (10)	34,177.81
Defence (61/63)	24.36

Source: **Fact Sheet on Foreign Direct Investment**, Department of Industrial Policy and Promotion (DIPP), GOI

Chapter 5
Problem Areas and Barriers in Leveraging Defence Offsets to Promote Indigenisation

It is error only, and not truth, that shrinks from enquiry.
– Thomas Paine

India is one of the largest importers of defence equipment in the world. Its military budget is also growing rapidly. During the decade 2003-13, it registered the fourth largest growth in real terms.[44] Further, nearly 70 percent of Indian defence needs are met through imports. In view of the high reliance on imports, the increasing defence requirements of the country and the growing sophistication of the industrial base of the nation, the prospect of achieving self-reliance in the defence sector is being seen as an increasingly achievable goal. To assist in this effort, the new offset policy was formulated and promulgated wef August 01, 2012. ***There are, however, certain risks associated with the revised offset policy. It is imperative to make rules that encourage, and polices that maximise, yield from the offset provisions. There is almost complete unanimity among defence economists who have analysed the impact of defence offsets on the development of defence industry in various countries that the process is highly complex and, therefore, defies easy conclusion***.

First and formost, we need to acknowledge that there is an economic cost to offsets. For instance, in a survey conducted in the UK, it was concluded that evidence suggests that procurements with offsets do cost more than off-the-shelf purchase and, not surprisingly, vendors seek to include most of this premium in the selling price. In a study of the defence offset implementation in Belgium, it was estimated that Belgium had to pay between 20-30 percent in increased costs in connection with offsets tied to its military procurements.[45]

Depending on the economic conditions prevalent in the offset applying nation, its industrial base or its capacity to absorb technology, vendors may hike the cost of their goods / services to compensate for the inefficiency inherent in the nation seeking offsets. Therefore, an offset implementing nation would have to pay more for the import of defence items than it would otherwise have to do, if it did not impose mandatory offset obligations.

From the above, it would be seen that India too would be able to acquire only less for the same money than what it could have in the absence of its mandatory offset obligations. ***Therefore, the moot question is whether India has carefully calibrated its regulations and put in place a system that can optimise the benefits of the offset policy that in the first place comes at a cost.***

Indian Scenario

All the experiences related to technology acquisition actually pertain to ToT in real terms. The Kelkar Committee (2005) observations regarding the characteristics of the Indian ToT model are as follows:[46]

- It is confined to DPSUs and OFs.
- Depth of technology transfer is inadequate.
- It essentially comprises transfer of drawings and processes for manufacturing and assembly, and no real transfer of technology. Adopting the ToT model for manufacture of imported equipment through licensed manufacture has not been a success e.g. the HAL fighter aircraft, Bharat Dynamics Limited (BDL) anti-tank missile, Bharat Electronics Limited (BEL) fly catcher radar.
- No flow of technology as the MK-II versions or next generation systems never came out of these facilities.
- Dependence on OEMs for upgrades has only increased and not decreased.

The above points definitely substantiate the point that the ToT model followed by India is not the ideal solution for meeting the national aim of self-reliance in design, development, production and life-cycle support of indigenous defence systems.

Adverse Observations by CAG

The Comptroller and Auditor General (CAG) in the report dated November 29, 2012, observed that there was lack of clarity on the type of foreign investment which would be eligible and interpretation of provisions of the offset clause. It also questioned the waivers given to foreign defence firms for fulfilling their offset obligations. ***CAG pointed out that the monitoring mechanism of the Defence Ministry for offsets was "ineffective as it was created without a clear definition of its objectives and role. It has remained only a paper exercise***". ***The government auditor also pulled up the Defence Ministry for allowing the selection of "ineligible offsets partners" for the offset contracts where, in some cases, the Indian Offsets Partner (IOP) was a 100 percent owned subsidiary of the foreign vendor***. The report said that the MoD allowed fulfillment of offset obligations through Foreign Direct Investment (FDI) by foreign vendors in specified Indian industries but "there was lack of clarity on the type of foreign investment which would be eligible and interpretation of provisions of the clause". It pointed out that a Boeing proposal to set up a test facility at DRDO was an "investment in kind", even as it was not an eligible offset and the decision was taken without mandatory certification by the Defence Offsets Facilitation Agency (DOFA). Although the ministry in its reply has stated that investment in the facility by Boeing "was accepted by the Defence Acquisition Council (DAC) and approval- in- principle for setting up the facility was accorded by the CCS", the reply was silent on whether the specific waiver of the Defence Minister, as Chairman DAC was sought for the breach of provisions of Defence Procurement Procedures.

Weaknesses Related to Human Resource (HR) Aspects

Like in previous DPPs, the major weakness of DPP-2013 is its lack of focus on institutional and human resource aspects, which are crucial for efficient acquisition. Institutionally, the importance of a strong acquisition body was advocated by the GoM in 2001 in its report on reforming the national security system. The GoM had recommended creation of a separate and dedicated institutional structure to undertake the entire gamut of procurement functions to facilitate a higher degree of professionalism and cost-effectiveness in the process.[47]

The MoD's procurement budget, which is INR 86,740.71 crores for 2013-14,[48] is expected to grow in double digits every year in the coming decade and beyond. It is, therefore, important that this huge sum of taxpayers' money is spent efficiently. This would require setting up of a strong acquisition wing and providing an adequate number of functionaries for acquisitions who possess the required domain knowledge in their respective fields. The DPPs of successive years have not paid adequate attention to these vital aspects. ***As it currently stands, the numbers of functionaries responsible for acquisitions in both the MoD and the Services are inadequate and perform their duty on tenure postings which do not extend for more than three years. Moreover, with no prior training, they are left to learn on the job because of which the majority finds it difficult to do justice to the task that lies before them. Considering that apart from the rules and guidelines, it is the people who make a huge difference in any transaction, the DPP needs to focus on this vital aspect too***.

Liberal yet Conservative Offset Policy

The expansion of the eligible product list for offsets in the DPP-2013 has further liberalised the offsets provisions, which include features such as complete freedom to the foreign OEMs to choose their Indian partners, change them in exceptional cases and choose any combination of methods for discharging their offset obligations. DPP-2013 has addressed the major lacunae in terms of provisions of multipliers and technology transfer through the offset route. However, the results of these are yet to fructify and the outcomes cannot be judged at this stage. ***At the same time, the Indian offset policy has no linkages with the industrial policy of the nation. Further, the lack of audit of offset implementation and transparency in these has resulted in a 'fog - of - war' situation, where critics question the necessity of offsets and whether they actually boost the indigenisation effort. The lack of sincerity and commitment can be illustrated by the fact that though technology transfer to DRDO in select technologies, has been introduced, duly incentivised by application of multipliers, the reality on the ground is very different, so much so that the composition of the Technology Acquisition Committee (TAC), which is to be convened under the aegis of DRDO for technology acquisition, is yet to***

be decided upon, leave alone identifying the methodology and tools for assessing the appropriate value of technology proposed to be acquired in the last two years.

FDI

Although a decision to change the FDI policy is beyond the purview of the DPP, provisions of offsets, which are intended to promote the domestic industry through active collaboration with foreign companies, are unlikely to work optimally unless the present FDI policy is reviewed. The current defence FDI policy, which has recently been revised to allow up to 49 percent equity stake in any Indian defence industrial venture, is expected to translate into meaningful financial and technological dividends. The failure of the erstwhile lower stipulation of 26 percent was primarily on account of the reluctance of the foreign players to commit anything to a joint venture in India in which they have little control. ***Considering that collaboration with foreign companies in the defence industrial sector is one of the objectives of the DPP, a suitable revision of the FDI cap to 76 percent and eventually 100 percent is necessary to meet the stated objectives.***

Transparency

Offsets are under much less scrutiny during their negotiation than the main arms deal. This holds true for both governmental scrutiny and for public awareness of such contracts. Offsets are claimed to be non-transparent. The lack of surveillance of the offsets contracts is amplified by their complexity. ***Offsets processes involve a range of complicated and detailed contracts and often include investments into a variety of companies and subsidiaries, making monitoring even more difficult***. Often, the complex and non-transparent way in which decisions are made to select and award offsets projects is questioned. Arranging offsets adds costs to the value of the defence purchasing contract, and these costs are borne by the importing country and not by the supplier. ***Offsets are also said to inflate the price of the main defence equipment as most of the additional costs are factored into the offsets programme. The absence of a transparent process is also claimed to create loopholes for corrupt practices in the offsets industry***.

Price Escalation

Do offsets cost money? There is arguably a certain amount of cost built into offsets. Offsets certainly do not come free and someone has to pay the cost. Who bears the costs of offsets? ***Offsets costs are normally factored into the primary contract's equipment price. In most cases, the costs vary, depending on the type of offsets programmes and the commercial viability of the offsets programme to the seller. The increased costs are then added to those of the primary contract, to be absorbed by the buyer country as an opportunity cost of maintaining domestic production***.

A Dutch audit on offsets costs, prepared by PwC for the Netherlands' Ministry of Economic Affairs and Ministry of Defence, found that the costs of imposing offsets averages 2.9 percent of the value of the acquisition.[49] The findings also mention that the factors influencing offset costs are the value and type (direct or indirect) of offsets obligation, the location of the foreign obliger and any possible cooperation with a foreign Ministry of Defence. Other factors, such as competitive tendering and the existence of a penalty clause, have no effect on offset costs.

Discrimination Between Private and Public Sectors

Historically, the Indian private sector has been subject to discrimination vis-à-vis the DPSUs and OFs for a variety of reasons. The reforms to this effect, which started with the 2001 decision to open up the defence industry to the private sector and, subsequently, through a variety of DPP-led measures, have not been able to eliminate this weakness. ***The private companies apprehend that their counterparts under the administrative control of the MoD still enjoy an unfair advantage over them***. DPP-2013, which has taken bold initiatives in broadening the level playing field between private and public sector companies, has not completely done away with the nomination rights.

Banking of Offset Credits

DPP-2013 grants recognition to offsets at the time of approval. Recognition at the time of approval, as opposed to recognition at the time of offset activity, may not only create an incentive for a vendor to file a claim as late

as possible, but even for the vendor to file an incomplete claim in order for its resolution to take a considerable amount of time so as to enable the vendor to get a date of approval of the offset that is as late as possible. ***Since the regulations place a restriction on the parties eligible to receive banked offset credits, mechanisms would need to be instituted to prevent unauthorised transfers from being certified by mistake or otherwise. The introduction of a system of banking requires the setting up of a registry of banked offset credits that can verify the value, time, and qualifications or easements, if any, of an offset held by a prime contractor that the prime may be offering to sub-contractors in exchange for a consideration***. Some other issues that require further regulatory guidance in the context of the banking of offset credits relate to issues such as:

- The assignment by bidders of these credits to more than one RFP at a time. A subsequent reassignment of assigned credits from one RFP to another at the option of the bidder.
- The withdrawal of assigned credits by bidders from one RFP and re-banking them for reassignment at a later stage.
- The legal status of credits once assigned by a bidder to an RFP that is subsequently cancelled (or in cases where the bidder is not the eventual contract awardee).[50]

Failure of Suppliers to Understand Implications of Offsets

In their enthusiasm to obtain an order, many vendors fail to grasp the full implications of offset liabilities. They tend to take the obligation lightly and do not make adequate budgetary provisions. This results in the following:

- **Time Delays**: During critical stages of acquisition – the trial stage or CNC stage--the vendor will be disqualified. This leads to unjustified delays and waste of time and effort. Critical operational voids continue to remain due to the induced delays. The inability to fulfil offset obligations makes them liable to substantial penalties and may render the main contract economically not viable.
- **Implementation**: The policy of 05 percent penalty on the vendor is not a major one. The vendor may have no qualms about not following contractual obligations since he would have the confidence that the buyer

would prefer to renegotiate the offset contract rather than imperil the main contract.

- **Receipt of Extraneous Offset Programmes**: India neither indicates areas in which offsets should be offered nor prioritises them. A vendor can hypothetically, therefore, discharge his offset obligations simply by purchasing mundane items or they may outsource defence related software solutions to India and have them counted against offset liabilities.

Exemptions from Offset Obligations

Under DPP-2013, the DAC is authorised to prescribe higher offset percentages or waive off the requirement in special cases, depending on the factors involved, such as type of acquisition, strategic importance or urgency of the acquisition, ability of Indian defence industry to absorb the offset and any other relevant factors. Arguably, the DAC also retains the authority to reduce or waive off offset requirements after the execution of the contract based on exceptional grounds, just as the government reserves the authority to extend offset contracts beyond the period of the main procurement contract. In addition, DPP allows defence procurements under the "Fast-Track Procedures" (FTPs) as completely exempt from offset obligations. Thus, while modification of an existing contract through the ordering of additional quantities will attract increased offset obligations, ordering supplies under FTPs will not attract such obligations. Since the decisions to go in for an FTP for particular purchases is made at extremely higher levels of authority, it is unlikely that the exemption can be misused by vendors to push sales of additional items by the adoption of an FTP, rather than ordering additional items under ongoing contracts during the currency of the ongoing contract or very soon after the main contract has expired. ***There may be a case, however, that since industrial base mobilisation and domestic absorption of critical defence technologies are important policy objectives, a delayed offset contract performance could be negotiated under such procedures so that the formation and execution of an offset contract does not delay the process of ordering urgently needed equipment, instead of completely exempting FTP procurements from offset obligations***.

Chapter 6
Key Policy Recommendations

Don't make me walk, when I am meant to fly.

– Anonymous

An analysis of the situation in India would reveal that the mandatory offset obligations would yield greater dividends if the necessary changes are made in the relevant policy and guidelines. There is reason to expect that the new offset policy can be used constructively to benefit the Indian defence industry, both public and private. Lessons must be learnt from international experiences as well as our past knowledge in the field. Our own approach must be well conceived and implemented with clearly defined quantifiable benchmarks. Some of the areas where new initiatives may be needed are discussed in this chapter.

Formulation of a National Offset Vision and National Offset Policy

India has no Declared or Mandated National Offset Policy. Many big ticket defence procurements have an in-built clause, wherein after the initial supply of Fully Formed (FF) equipment, the balance quantity is produced indigenously through the Transfer of Technology (ToT)/ licensed production route. Examples of this model are the purchase of the MiG and Jaguar aircraft and T-72 and T-90 tanks and Best Management Practices (BMPs) from the erstwhile USSR. Even the more recent Advanced Jet Trainer (AJT) HAWK follows the same model. These arrangements cannot be referred to as offsets, since the ToT is part of the deal and comes at an additional cost.

There is a need to formulate a National offset vision that should incorporate the following:

- Requirements of the Services.
- R&D capabilities, including establishment of internationally accredited laboratories and HR resources.
- Audit of existing and forecast of industrial capacity (public and private sector).

- Spelling out of economic objectives to be achieved by the offset policy.
- FDI sought in specific industries and targeted areas.

We need a well crafted offset strategy and resultant policy that will flow out from the offset vision envisaged and can help India's domestic defence industry. The national offset policy must form an integral part of the industrial policy and Ministry of Economic Affairs. The general objective of this policy should be to contribute to the industrial base of India through technological advancements, thereby broadening its technological capabilities, improving quality levels, expanding markets and enhancing employment within India. The policy should promote the competitive participation of the Indian industry and service sector in the development, production and procurement of materials and services in the national/ international defence market(s). The government will need to understand that optimising India's defence capabilities will require an inflow of skills and knowledge from the most experienced industry players, as well as astrong coordination across the armed forces, industry, academia and defence research institutes. An important first step, which can go far in helping avoid pitfalls in developing the most effective offset policies, is to craft out strategies that focus on targeted areas and a long-term outlook for the domestic defence industry.

The national offset policy could be legislated by the Ministry of Commerce encompassing various government departments. All foreign procurements worth more than Rs 500 crore will be liable to offsets, with an offset obligation of 50 percent. This policy may be extended to all government imports, including defence, space, oil and gas, telecom and atomic (nuclear) energy. A National Offset Authority (NOA) is proposed to be assisted by the Offset Negotiating and Monitoring Committee having representatives/ domain specialists from the respective field, as required, industry (public and private sector), regulator, academia and users who will assist the NOA. Direct offsets in defence contracts can now be used as a precursor for the next step of initiating indirect offsets in the fields of science and technology, R&D, communications, infrastructure, health and education among others. The structure of the DOMW in the MoD

could be replicated at a higher level for initiating "indirect offsets" cases and monitoring their implementation.

Enhancing Offsets Limit and Widening the Scope of Offsets

Given the large size of India's imports, there is no reason why its offset requirements should be less than 100 percent. The entire 100 percent cannot be in the defence sector. India at present would neither have the capacity to implement offset transaction of this aggregation if the offset limit is raised to 100 percent, nor would sellers be in a position to discharge them as beneficially, as they would if the policy is also extended to the civilian sector. ***It is recommended that India prescribe 100 percent offsets with 40 percent for defence and the balance 60 percent or more in strategic sectors like power, telecommunication, mining and transport and important social sectors like education and health***. Extending offsets to the social sectors would bring attractive dividends. For instance, investment of technology and finance in taking education to villages through satellite links could have enormous long-term positive spinoffs for Indian's economic growth. India could, therefore, reserve 40 percent for direct and quasi-direct and 60 percent for indirect offsets. India has sufficient industrial capacity to absorb offsets in these sectors including ToT. After all, defence budgets come at a social cost to the nation and it would only be prudent to leverage large defence contracts that can give India benefits in these sectors.

Prioritising Offsets

Our priorities to a great extent should be guided by the strategic and economic objectives laid down by the DAC for each programme, ideally within a larger policy framework for the national defence industry. The illustrative lists of priorities may be as under:

- Acquire state-of-the-art and critical technologies.
- Provide opportunities of manufacturing and exporting components and parts of acquired equipment.
- Acquire depot maintenance technology, facilities, equipment, tools for service.
- Receive upgraded system of weapons.
- Export defence industrial products.

Evaluation of Offset Proposal

The present offset guidelines permit the vendor to have the leeway in making his offset offer (in terms of the route and products from the eligible list). On the contrary, if offsets are to serve a policy to achieve indigenisation, then the Government of India should in fact dictate as to what offsets need to be given by the vendor so as to leverage big ticket capital acquisitions for the purpose. A suggested model as adapted from best global practices for evaluation of an offset proposal is as given under:

- **Causality Aspect (Compensatory Character)**: It concerns an order, which, it could be supposed, without the economic obligations of this contract, would normally be placed with a foreign company.
- **Technology Aspect**: The order will consist of equipment and/or services of an advanced technological level and realised in India, making use of highly qualified labour.
- **Newness Aspect**: The order must create unambiguously a new or additional business flow.
- **Export Aspect**: The final destination of the order is not situated in India.

Foreign Direct Investment (FDI) in Defence Sector

Direct foreign investment in Indian defence industries for the industrial infrastructure for the Services, co-development and joint production of defence products and components have been identified by the DPP as various means to discharge defence offset obligations. In order to encourage investment and transfer of technology to India, it would be important to give foreign defence firms the confidence that they would have a greater share in the profits and a larger say in the management of the entities they would create. Unless the foreign entities have enough incentive, they would not establish units in India. The reality is that companies do not establish entities abroad that can create competition for the parent company. Therefore, foreign firms should be given sufficient control over the entities that they create. In this way, they would be assured of control and continuing profit in a country whose defence budget could steadily grow. Such a policy could be used in conjunction with offset banking that is allowed in India.

As discussed earlier, foreign firms that may tie up with Indian entities are allowed only 49 percent equity in such ventures. The remaining equity has to

be owned by Indian entities. ***The ceiling of 49 percent on foreign equity would be a major impediment to the success of the offset policy. The FDI limit should be enhanced to at-least 76 percent to attract long-term and sustained investment by global firms. In addition, there should be further transparency in dealing with prospective foreign vendors***.

Involvement of Domestic Industry in Defence Planning

Private entities are answerable to their shareholders and are in business to make profits. Attractive Return on Investments (RoI) can make them divert their finite resources to the defence sector. Establishing a defence venture can take more time than other commercial ventures. Therefore, ***advance information of the acquisition plans of the government can give potential domestic investors the lead-time and the opportunity to study the prospects of raising funds and seeking foreign collaborations through JVs/ MoUs. This is a necessary pre-condition for creating the right atmosphere to develop the indigenous defence industry. The sharing of LTIPP through a TPCR by the HQ IDS with the industry is a first step in this direction. However, the same needs to be refined manifold to be meaningful, transparent and easily comprehensible by the industry to the extent that it relates to items proposed for acquisition. Presently, the private sector has no prior knowledge of the defence plans of the country and despite being a stakeholder, is not represented on the procurement decision-making bodies viz, SCAPCC, Sevices Capital Acquisition Plan Categorization Higher Comitee (SCAPCHC), DPB and DAC. As a consequence, actionable information is sent to them only when RFPs are issued. Potential Indian investors, therefore, lose the lead time that would be required to plan and prepare for such large investments***. The Indian defence industry should be involved in the planning, approval and monitoring of offsets. If defence offsets are to be directed, then it is necessary for offsets to fill the critical gaps. The nature of gaps that exist would be in the knowledge of the industry more than any other.

Abolish Licence Requirement for Defence Items

The discrimination between the private and public sectors has been discussed earlier. The endeavour of the government to protect the PSUs

and keep their order books full is often counter-productive. Private entities would not embark on any manufacturing venture, defence or otherwise, unless they are confident of reaping dividends from it. Therefore, prudence would lie in completely opening up this sector. Let the market forces regulate the industry. The Standard Operating Procedures (SOPs) given to the public sector must be extended to the private sector involved in defence related activities. ***Licensing norms may be reviewed. It may not be feasible in the short run for most companies to invest significant amounts over longer periods envisaged in defence production to address the demand for full systems. It would, however, be feasible to address the demand for individual sub-systems. To increase the number of such sub-system suppliers, licensing as 'Mini Raksha Udyog Unit' (MRUU) status may be considered***. Certain percentage of annual turnover towards defence related products should be made mandatory to retain the MRUU status.

Introduce Offset Credit Trading

One of the existing barriers to private participation in the defence industry are the limitations in banking of offset credits, as discussed earlier. DPP - 2008 introduced offset banking. According to the existing guidelines, offset banking is permissible for a maximum of seven years. This is a good start to the earlier stipulated two years but given the lead time available from the time RFPs are issued, this period may increased to 10 years, depending on the completion schedule of the project. It would give confidence to foreign firms hoping to bag Indian contracts that they would get adequate returns for their investment. In addition, the most encouraging step would be to introduce offset trading, which would make it possible to sell offset credits to any firm that bags a contract in India and has certain offset obligations to fulfil.

Directing Offsets

The National Offset Vision and the prioritisation of programmes will help focus the offsets in the right direction. India is a nation that has a reasonable defence industrial capability. It is more advanced in some areas than in others. For instance, in the field of

naval ship building, India has been able to achieve a fair degree of indigenisation and in some cases, around 86 percent. India today is designing stealth frigates and constructing them at Indian yards. Through this process, the benefits of offset could be channelised into identified areas.

Use of Multipliers

Multipliers can help focus on priority high technology areas. Multipliers are devices to give additional credits for offsets in critical items or most critical technology. At present, the Indian offset policy 2013 allows the use of upto 3 multipliers. Brazil, Greece and Israel have successfully exploited multipliers to obtain high technology in niche areas. In India too, alongwith the critical areas/systems that may be included in the list eligible for the discharge of offset obligations, the concept of multipliers could be used to drive the ingress of niche technologies. This could be part of a twin-pronged strategy to sharp focus and direct offset benefits. It would, therefore, be desirable to exploit the system of multipliers. The multipliers could be used in the following areas:

- Targeted locations/ sectors.
- Niche technologies.
- Provide for more than 100 percent offsets.

Strengthening DOMW

The shortcomings in the erstwhile DOFA led to the creation of DOMW. It has been estimated that in the 12th Five-Year Plan alone, India expects nearly US$ 10 billion (approximately INR 60,000 crore) to flow into India through offsets. This would mean that for every year of the five years, offsets worth INR 12,000 crore would have to be processed by DOMW. This would require the establishment of a strong agency that draws its expertise not only from the government sector, but also from outside. The present system is woefully inadequate to deal with the elaborate planning, evaluation and monitoring of offsets. Just as the Defence Acquisition Wing has been established in the MoD, it would be necessary to establish a wing exclusively to deal with offsets. If the threshold is reduced to US $ 1 million and the minimum requirement of offsets is enhanced to 100 percent, with 40 percent

for direct and 60 percent for indirect offsets, then it is necessary to have such an organisation. The ***DOMW would, therefore, need to be strengthened and made into a dedicated organisation with economists, financial and technical experts drawn also from outside the government to steer the offset programmes in the right direction. Representatives from relevant ministries, like those of industry, trade and commerce, may also be included to strengthen the DOMW***. As the efficacy of the offset policy would depend on detailed planning, implementation and monitoring, it is important for it to be headed by an Additional Secretary designated as DG, Offsets. ***Similarly, a more elaborate mechanism for offset monitoring should be put in place. It should also consist of dedicated staff who would not be assigned any other task***.

Contracting is an essential part of the offset contracting process. The imposition of appropriate clauses to safeguard the Indian interests and inclusion of penalties that could deter default on offset implementation on part of the vendor are required. Drafting of offset contracts, with due diligence, by domain specialists is recommended till the same can be attained and established within the Acquisition Wing, MoD.

Level Playing Field

As brought out earlier, the DPSUs and OFs have been given a host of benefits like excise exemption and custom duty waiver in specific areas. There is a need to ensure a level playing field to the private sector industry. Preferential purchase arrangements / tax concession or any other incentives must be extended to all recognised companies operating in the defence goods domain in the private sector as well. Recent IAF RFP issued has been exclusively for the private sector giving an impetus to the nascent private players. That is a step in the right direction.

Streamlining Export Policies

Domestic demand is unlikely to be large enough in some of these segments. Domestic demand being sporadic and unpredictable, to achieve a viable business model, particularly in the long-term, additional volumes would have to be garnered through exports. In this field, there may be a few hurdles that would have to be addressed by streamlining the relevant policies.

Chapter 7
Conclusion

With India embarking on a major modernisation programme for its armed forces, the country has emerged as the world's top importer of arms and weaponry over the last few years. According to the latest data provided by the Swedish government supported Stockholm International Peace Research Institute (SIPRI), the world's top think-tank in defence matters, during the period 2006-10, India overtook China and became the world's largest arms importer, accounting for 09 percent of global arms transfers, with 30 percent share of the total arms imports of the top five importers. During the 12-year period 2008-20, India is expected to spend as much as $ 200 billion on new acquisitions, modernisation and replacement of obsolete weapon platforms, aircraft and warships.[51] In the current year FY (2014-15), India's defence budget is $ 38.35 billion,[52] which is expected to grow at a Compound Annual Growth Rate (CAGR) of over 11 percent annually over the next few years until 2020. ***With defence budgets facing likely cuts in the home markets of the world's largest arms producers, India at present offers the world's largest market for global defence producers and is an opportunity that no global defence company can afford to miss***.

India's mega defence modernisation plans also include stress on indigenisation. At present, India imports about 70 percent of its defence requirements, with domestic producers supplying the balance, that too in the low technology threshold domain. The MoD, however, has articulated the goal of reversing the situation by 2020 and achieving indigenisation of all defence production and supply to the extent of 70 percent.[53] Offsets can play a significant part in achieving this objective.

Offset management is a complex practice, employing complicated terminologies and processes. Nevertheless, offsets remain a popular mode of trade transaction, especially amongst the defence industry community. There is no straightforward answer to whether offsets can or cannot work. ***Offsets success is 'country-specific' and depends largely on each nation's offsets***

strategy, policy and processes. The global practices and success strategies adopted by some countries have been discussed earlier and the following points emerge:

- There is no universal "one size fits all" policy applicable to all countries. Each country has to evolve the offset policy that suits it best, taking into account its special requirements, unique capabilities, the depth and extent of its natural and human resources and the level of its economic development.
- The objectives of the offset policy should be based on a realistic assessment of the country's capability to absorb potential inputs. The desire to acquire and absorb the latest technologies underlies most offset programmes.
- Technology transfer may sound quite attractive but it is only as effective as the ability to learn and make productive use of that learning. An offset policy should have a clear focus. Instead of dissipating energies in broad generalised programmes with multiple objectives, the nation is better served by a concentration of effort in specific objectives.
- An offset policy can be successful in the long term only if both parties in the offset deal find a real interest in the transaction. This is the difficult balancing act for the offset policy maker of achieving equilibrium between the obligations imposed on the foreign party, and the cooperation and benefits it wishes to reap. Imposition of stringent penalties for non-performance of offset contracts may be counter-productive.
- Finally, the offset policy should have flexibility. Once an offset programme is in place, its results need to be monitored carefully and based on feedback received from actual implementation, moderations or mid-course corrections could be undertaken. The roll out of an offset programme is likely to be a learning experience for both parties. It is, therefore, possible within the next few years that India may well witness offset contracting on a much more aggressive and wider scale than hitherto observed and experienced, thus, presenting a far more challenging and dynamic area of economic activity that will need mature and careful handling.

The revisions carried out under the DPP-2013 clearly denote a serious intent to develop domestic defence capabilities, industry and competition. In

the process of evolution, the MoD has, in fact, addressed several concerns of the stakeholders, but DPP-2013 is still fraught with problems. ***Some of the windows for improvement include, primarily, the absence of a single dedicated procurement body, which covers the gamut of functional heads. Currently there is an overlap of responsibilities within the various departments in the MoD which needs to be streamlined in order to efficaciously take decisions and effect policies. An integrated system would check the mammoth delays in acquisition, improvement in formulation of the Services Qualitative Requirements (SQRs), trials and technical evaluations***.

The government has moved a step forward in modifying the FDI policy to 49 percent from the earlier stipulated meagre 26 percent, which is critical to eliminate the limitations of the procurement and offset policy. OEMs are reluctant to licence proprietary technology to a company where they have a minority share, risking compromise of their proprietary rights. Increase in the FDI ceiling will encourage greater cooperation, value addition and information sharing with the Indian defence companies. The desired gradual increase to 76 percent and eventually 100 percent will yield unparalleled payoffs in developing the Indian defence industry.

Holistically, while there has been evolution in the DPP since 2002, in view of largely procedural amendments being affected rather than structural issues and the continuing lack of clarity on procurement policies, it is unlikely that the changes brought in the recent DPP-2013 will have a far reaching impact for the vendors. The DPP-2013, which supersedes its earlier versions and amendments, has incorporated several new provisions and revised some. The revised provisions, especially those related to the validity of AoNs, priortisation of categories, offsets, ToT for maintenance infrastructure are all welcome changes that would together help expedite defence acquisition and push for higher defence industrialisation in India. The positive changes notwithstanding, the latest DPP falls short on several accounts. ***As is the case with its previous versions, the new document has focussed only on the procedural issues, without any attention to the institutional aspects***. ***The present acquisition structures are not the most efficient. The weakness of the structure is further compounded by the lack of an adequate and trained workforce. The MoD needs to factor in these***

issues in the next edition of the DPP, to ensure greater efficiency in acquisition. DPP-2013 has also not paid enough attention to bring parity in the procurement categorisation process, adopt a more dynamic offset policy and eliminate the discrimination between the private and public sector enterprises. Since these weaknesses have a bearing upon different facets of acquisition, they also need to be addressed.

Since offsets come at a price, implementation of the policy would also imply that the armed forces do not get what they would have got in the absence of offset provisions. ***Therefore, there is a need to calibrate the policy to focus development in specific identified areas as opposed to the aim of creating general defence capability, lest it become a sterile investment of scarce resources***. A number of recommendations have been made in Chapter 6 to improve the current system of offsets.

From the vendor's perspective, as globalisation in the defence industry continues, offsets will become an increasingly important strategic tool. ***Some foreign vendors have adopted the view that offsets are a burden - a "tax" that has to be paid in order to play. While the logical viewpoint is that offsets are a key enabler for international growth, those players who follow a holistic, structured approach to defining their offset strategies will find them less a burden than a competitive weapon***.

Offsets are an excellent tool to effect a fast-paced rise of the technological base of a country. It needs to be understood that simple offsets are unlikely to result in any serious rise in the national technological base. It is the additional features such as graded multipliers, banking and trading of offsets that are likely to make the scheme more interesting and therefore attractive. The offset proposition needs to be a win-win situation for both the seller and buyer. Only then will there be greater chances of a serious proposal for higher threshold technology coming through to the Indian defence industrial base.

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Appendix A

(Refers to Chapter 1)

Stakeholders in the Indian Defence Industry Pie

Entity	Affiliation	Role	Infrastructure	Estimated Workforce Employed	Annual Turnover/ Annual Budget 2013-14
DRDO	Govt	Developing defence technologies covering various fields like aeronautics, armaments, electronics, combat engineering, life sciences, materials, missiles, and naval systems.	58 laboratories spread nationwide.	30.000 personnel including 5,000 scientists and about 25,000 other scientific, technical and supporting staff.	**INR 14357.32 crore**[1]
DPSUs					
Hindustan Aeronautics Ltd (HAL)	Dept of Defence Production, MoD	Aviation sector to include aircrafts helicopters, aero-engines, accessories and avionics.	19 Production divisions, 10 R & D centres and one Facility Management Division spread across various locations at Bengaluru, Nashik, Hyderabad, Lucknow, Kanpur, Korwa, Koraput and Barrackpore.	12,835 personnel	**INR 14204.21 crore**[2]
Bharat Electronics Lts (BEL)		Radars & Weapon Systems, Sonars, Communication, Electronic Warfare Systems, Electro Optics and Tank Electronics, etc.	Infrastructure and manufacturing facilities spread over nine ISO 9001 / 9002 certified modern production units around the country	10,305 personnel including 3869 engineers and scientists	**INR 1293.82 crore**[3]
Garden Reach Shipbuilding & Engineers Limited (GRSE)		Shipbuilding. Builds a wide range of ships ranging from sophisticated warships to ultra modern commercial vessels and from small harbour craft to patrol vessels and hovercraft.	Ship building and repair facilities(61 Park, Taratala unit and Belur), Diesel Engine Plant, Ranchi, Fitting Out Jetty, Rajabagan Dockyard	3,491 personnel	**INR 1,529 crore**[4]

Mazagon Docks Limited (MDL)		Shipbuilding. Manufacturing warships and submarines for the Indian Navy, as well as offshore platforms and associated support vessels for offshore oil drilling.It also builds tankers, cargo bulk carriers and passenger ships and ferries.	Mazdock Modernisation Project (MMP), which would significantly enhance the warship and submarine construction capability of the shipyard is being pursued vigorously, M/s Haskoning Nederland B.V. (HNBV), world renowned consultants in the field of marine construction, have been appointed as consultant for this project. The major components created under MMP include a new Wet basin with level luffing cranes, 300-Ton Goliath crane, Module Workshop, Stores Building, Shipyard transporter and Cradle & Assembly shop at a cost of Rs. 800 crore approximately	5,744 personnel	**INR 2,300 crore**[5]
Bharat Earth Movers Ltd (BEML)		Prime earth moving and construction equipment manufacturer. Also produces ground supporting equipment for the armed Forces for movement of men and material.	BEML operates on three major business verticals associated equipment manufacturing: Mining & Construction, Defence & Aerospace Rail & Metro. In addition to the above, there are Five Strategic Business Units (SBUs): Technology Division for providing end-to-end engineering solutions, Trading Division for dealing in non-company products, International Business Division for export activities, Aerospace Division for provide design services for Aviation Sector, BEML has eight manufacturing units spread over four locations: Kolar Gold Fields (KGF) Complex (Earth Moving Division, Rail Coach Unit II, Heavy Fabrication Unit, Hydraulic & Powerline Division) ; Mysore Complex (Truck Division, Engine Division, Aerospace Manufacturing Division, Bangalore Complex (Rail & Metro Division) Palakkad Complex (Defence Products	11,005 personnel	**INR 4,500 crore**[6]

			Manufacturing, BEML - Tatra Trucks 12x12, 10x10,8x8, 6x6, 4x4 & Variants, Pontoon Bridge System, Ground Support Vehicles for Guided Missile Program, Heavy, Medium and Light Recovery Vehicles 50T Trailer for Tank Transportation Mil Rail Coaches and Mil Wagons) Vignyan Industries, a subsidiary located at Tarikere (Steel Castings)		
Bharat Dynamics Ltd (BDL)		Production of Guided Missile systems	Production and design facilities at Kanchanbagh (Hyderabad), Bhanur and Vizag	3300 employees	**1074.71 crore**[7]
Mishra Dhatu Nigam Limited (MIDHANI)		Manufacture of a wide range of superalloys, titanium alloys, special purpose steels etc. for critical sectors, with technical knowhow from foreign collaborators	Midhani's primary manufacturing facilities are located in Hyderabad. This includes facilities for melting furnaces, forge presses, conditioning, heat treatment, hot rolling, cold rolling, tube shop, investment casting, bar and war drawing, machining, Kanchan Armour Plant, pickling, quality control lab, etc	2500 personnel	**558.59 crore**[8]
Goa Shipyard Ltd (GSL)		Shipbuilding. The product range of the Shipyard comprises 105m Advanced Offshore Patrol Vessels (AOPV), 105m Naval Offshore Patrol Vessels (NOPV), 90m Offshore Patrol Vessels (90m OPV), Offshore Patrol Vessels (OPV), 50m Fast Patrol Vessels (FPV), missile Boats (MB), Survey Vessels (SV), Extra Fast Attack Craft (XFAC), Sails Training Ships(STS), Landing Craft Utility (LCU), Seaward Defence Boats (SDB), Torpedo Recovery Vessels (TRV), Passenger Vessels (PV), Tugs, etc.	Ship Lift facility (2 x 100 T capacity shipyard unit transporters, two land berths for dry berthing, 250 m long jetty equipped with 2 Nos 45T Level Luffing Cranes capable of lifting materials to height of 35 mts and outreach of 35 mts, 13,600.00 Sq.mts of Ship Transfer area is created for facilitating the transfer of vessels after docking through shiplift and Transfer system on to the berths, the ship lift and transfer system is the first to be installed in a defence public sector shipyard in India. The shiplift system is capable of docking the vessels up to 6000T and	1,600 skilled personnel and over 200 qualified engineers and naval architects	**1579.35 crore**[9]

			120 mts Long X 20 mts Wide). Building bays (GSL has three large self-supporting all weather building bays with a working floor area over 10,000 sq.m. With a maximum length of 200 m, an inside width of 25 m. and craneage capacity of upto 40 tonnes, these bays are fully equipped for construction, modernisation and repair of all types of naval craft and medium sized commercial vessels) Steel preparation and aluminium fabrication shops with CNC plasma cutting machines, automated shot blasting and priming plant and processor-controlled bending machines		
Hindustan Shipyard Ltd (HSL)		Shipbuilding	Spread over 300,000 sq mtrs it has ship -building, ship repairs and submarine retrofitting divisions. It is the largest shipyard on the east coast of India	3200 personnel	**150 crore**[10]
Ordnance Factories	Govt	Indigenous manufacture of defence equipment	39 Ordnance Factories manufacturing Small Arms, Aircraft weapons, Anti-aircraft warfare, Naval weapons, Anti-ship warfare, Anti-submarine warfare, Anti-tank warfare, Missiles and launchers, Rockets and launchers, Bombs, Grenades, Mortars, Mines, Military vehicles, Engines, Armoured vehicles, Chemical warfare, Clothing, Artillery, Ammunition, Propellants, Explosives	1,64,000 personnel	**16,246 crore**

DGQA	Govt	QA/QC for all defence equipment inducted into the armed forces	122 Establishments and 34 labs	25,000 personnel	**843.23 crore**[11]
Defence Private Sector	Private Sector	Manufacture of aerospace and defence equipment	The sector comprises of approximately 140 private companies	3,85,000 personnel	**980.09 crore**[12]
Defence Related MSMEs	Private Sector	Manufacture of aerospace and defence equipment	The MSMEs sector comprises of 5,000 SMEs (Small and Medium Enterprises) involved in production of 450 odd defence items.	75,000 personnel	**1,584.36 crore**[13]

Notes

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Appendix B

(Refers to Chapter 3)

A Comparative Analysis of Global Offset Practices

S. No	Country	Threshold	Offset Value	Multiplier	Remarks
1.	Australia	05 Mn AUD	30%	1 to 6	• Defence Material Organisation, Deptartment of Defence is responsible for offsets. • **By rule Australia does not accept offsets unless they bring benefits to domestic industry**. • Use of multipliers to entice R&D and training.
2.	Austria	726,000 EUR	> **100% - 200% and in some cases even more**	**1 to 10**	• Offset arrangements negotiated by Federal Ministry of Economic Affairs and Labour. • **Austria has one of the highest requests in the world for nominal quantity offsets**. • Signatory to voluntary EU code of conduct on offsets.
3.	Belgium	11 Mn EUR	**> 100 %**	Not specified	• **Offsets managed through Belgian Industrial Benefits Program directed by Ministry of Economic Affairs**. • **Focus is on high-end technology transfer and new/ additional business flow**.
4	Brazil	Different for each branch of Brazilian Armed Forces (between 01 to 05 Mn USD)	> **100 % for contracts above 05 Mn USD**	1 to 4	• Offsets under purview of Ministry of Defence. • **Offset provisions vary for Army, Navy and Air Force**. • **Offset policy emphasises technological development of domestic defence industry through technology transfers, cooperation and co-production**.

5.	Bulgaria	05 Mn EUR	**Min 110 %**	1 to 3	• **Direct offsets (generally 30%) supervised by Defence Ministry while indirect offsets (generally 70%) by Ministry of Economy and Energy**. • **Permanent Inter- Ministerial Council of Special Purpose Public Procurement approves offset programs**. • Agency for Information, Technology and Communications assists and coordinates offset projects.
6.	Canada	100 Mn CAD	**100 %**	Multipliers upto 5 are only permitted on IRB transactions involving contributions to Canadian universities for work related to commercialisation of research and contributions to venture capital funds specialising in small business development.	• **Offset programme referred to as Industrial and Regional Benefit Programme.** • **Managed by Department of Industry, Government of Canada** • Policy **requires prime contractors to place sub-contracts and investments into high-technology sectors** of the Canadian economy.

7.	China	Data could not be ascertained			• **The Chinese have leveraged defence acquisitions to extract offsets agreements to transfer some of the aircraft production alongwith related expertise and technology as part of their defence deals**. • Seeks technology transfers, licensed production, licensed assembly and participation in R&D programmes. • It is perhaps one of the most aggressive countries pursuing offset agreements and with its market potential and minimal labour standards. • China recently announced that it would be entering the large civilian aircraft industry and much of the success of their efforts depends on the transfer of production technology from other countries presumably in the form of outsourcing and offsets from US and other aerospace companies.
8.	Czech Republic	CZK 500 Mn	**Min 100%** (min 20 % in the form of direct offsets)	No multipliers are used.	• **Ministry of Trade and Industry, Czech Republic, is in charge of offset management**. • **TNational Offset Commission** is responsible for auditing and reporting status of offset programmes.
9.	Denmark	DKK 25 Mn	**Min 100%**	Multipliers for R&D and technology transfers higher than 1	• **Conditional Industrial Cooperation Contract (ICC) signed with each potential supplier at the pre-bid stage**. • Ministry of Defence is responsible for negotiating the main contract, while **Danish Enterprise and Construction Authority (DECA), Ministry of Economic Affairs is responsible for signing of offset contracts and monitoring of implementation**. • **Governed by Industrial Cooperation policy** issued in 2005. • Denmark signed a trilateral agreement with UK and Netherlands on best practices for application of abatements in offsets regarding swapping of offset obligations.

10.	Germany	-	Germany applies a policy of "industrial balances," based on 100% of the contract value.	-	• No formal / official offset policy. Germany's official position is that offset arrangements are economically counterproductive in defense trade. • **Direct offsets as cost share/work share arrangements is a usual procedure in cooperative programmes**. • German Federal Ministry of Defence (BMVg), and the Federal Office of Defense Technology and Procurement (Das Bundesamt für Wehrtechnik und Beschaffung - BWB, that is an Acquisition Agency) are in charge of procurement and cooperation.
11.	Greece	10 Mn EUR	**Min 80% to 120%**	1 to 10	• The Hellenic Ministry of National Defence is in charge through the department of General Armaments Directorate (GAD), and the **Division of Offsets** (DO). • **Greece does not accept indirect offsets, since it is focussed on the strengthening of its military capabilities**
12.	Israel	100,000 USD	Min 35 %	1 or 2	• **Ministry of Industry, Trade and Labour handles the offset policy and implementation**. • Israel has been for a long time the largest beneficiary of United States Foreign Military Financing (FMF), getting more than 50% of the entire available U.S. FMF budget. This condition sets a limit to Israeli offsets request to US. • **It has a large number of successfully fulfilled offset obligations, where the percentage fulfillment is much more than 100%**. • As a direct impact of defence R&D investments in Israel, the country moved from a non-entity amongst defence suppliers 10 years ago with less than US$ 03 million per annum defence supplies to India to more than US $ 900 million per annum today.
14.	Netherlands	5 Mn EUR	**Min 100%**	1 to 5	• The Ministry of Economic Affairs - Commissariat for Military Production is in- charge of offset policy and implementation. • The focus is on innovation and marketing support and it is directed by the Ministry of Economic Affairs.

15.	New Zealand	-	-	-	• No offset policy. Vendors may voluntarily make offset proposals. • **New Zealand MoD does not advertise for mandatory offsets; rather, it encourages vendors to provide offsets and local industry participation**. This policy was also influenced by regional agreement with its neighbours and regional participants. • New Zealand recognizes regional bilateral agreements with Singapore (closer economic relations) and other entities, in addition to the Australian Closer Economic Relations and Trade Agreement (CERTA).
16.	Norway	NOK 50 Mn	**Min 100%**	1 to 5	• **Norwegian Department of Finance and Management, Ministry of Defence {having representatives of Ministry of Industry and Trade, Norwegian Defence Research Establishment (FFI) and defence industry} has the responsibility for concluding Industrial Cooperation Agreements (ICA) and the supervision of the agreements during their implementation**. • Even though Norway is not part of the European Union, it has joined the European Defence Agency with no voting rights.
17	Pakistan	Pakistan is in turmoil with disputes with its neighbours and the threat of extremism within. According to *Foreign Policy* magazine, Pakistan is ranked tenth on the Failed States Index. It spends a significant portion of its annual budget and gross domestic product on defence. **It does not have an official offset policy; but, unofficially, it strives to support its defence needs locally**. Over the last few decades, Pakistan has faced embargos by the U.S. and other countries that have pushed its unofficial policy to become firmer on local production, support, and the export of excess capacity. **It exports small arms and ammunition and it is now formally promoting its products through a defence exhibition and seminar that is held every other year. Recently its acquisition of work related to the Boeing 777 had a local production offset component**. Similarly, **its recent acquisition of a role in the production of the Italian surface-to-air missile (SAM) had an unspecified amount set aside for local support and maintenance**. Pakistan is not as ambitious as India in its offset requirements because it does not enjoy the same status as India in world politics and international relations. In addition, it does not have the same economic resources, skilled workforce or infrastructure. Pakistan's defence industry is totally state run with almost no private-public enterprise participation.			

18.	Poland	5 Mn EUR	**Min 100%**	2 to 5	• **Ministry of Economy** is in charge of offsets. • **Direct offsets for country's defence industry and opening of new export markets are Polish priorities**.
19	Saudi Arabia	400 Mn Saudi Reals	Min 35%	Not specified	• The Saudi Economic Offset Programme is under the Deputy Minister of Defence. • **Offsets targeted for investments in job creation and training, economic diversification, technology transfer and foreign direct investments**. • The UK and France have established bilateral offset programme with Saudi Arabia. • The UK Al Yamamah Economic Offset Programme (I, II and III) is the most complex and longest programme, it began in 1987 and still alive.
20.	South Africa	US$ 02 million	Min 30%	Not specified	• Offsets or '**Industrial Participation'** (IP) as it is officially referred to in South Africa is **mandatory for all government purchases**. • In April 1997, Cabinet approved **National Industrial Participation (NIP) policy and operating guidelines for all government departments to be administered by the Department of Trade and Industry (DTI). NIP affects all government purchases or lease contracts (goods, equipment and services) with an imported content equal to or exceeding US$ 10 million**. • Direct offsets are managed by the Armaments Corporation of South Africa while indirect offsets by the Department of Trade and Industry. • The IP obligation must equal or exceeds 30% of the value of the imported content of the purchase or lease and must be fulfilled within 7 years from the effective date of the IP agreement. • The prospective foreign seller/supplier has to submit and implement business projects, which would generate IP credits equalling or exceeding the 30% IP obligation. • 5% performance guarantee is required prior to award of the IP contract.

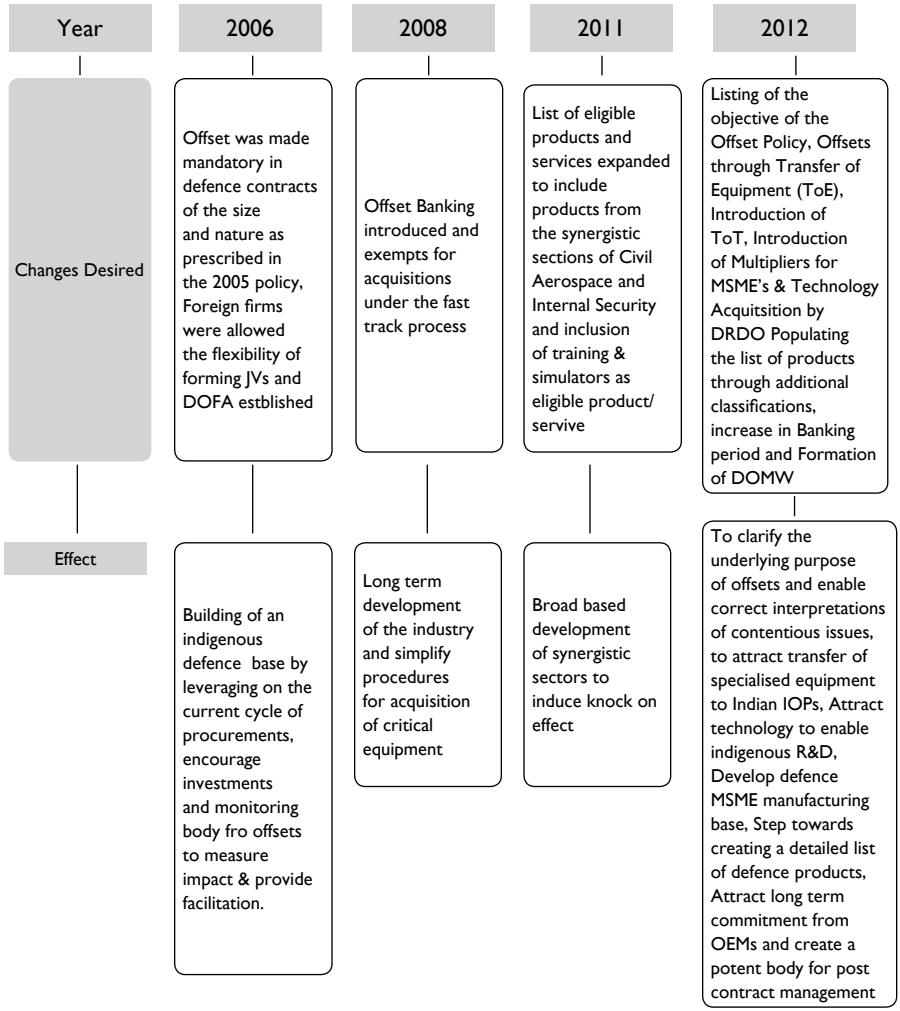
21.	South Korea	10 Mn USD	**30 -70 %**	1 to 6	• Defence Acquisition Programme Administration, South Korean Ministry of National Defence, is in charge of South Korea's offset policy. • The South Korean defence industry has been able to design and produce systems. • Its regional market development and partnership with Turkey and Malaysia have led to new sales. Today, South Korean defence exports amount to billions of U.S. dollars.
22	Sweden	10 Mn EUR	**100%**	Multipliers can be applied only to 10% of the total offset value.	• The offset policy was issued by the government in 1999. The industrial Participation programme is directed by the Minister of Defence, Defence Material Administration. The offset guidelines were issued in 2002. • Only defence related offsets (direct offsets) are accepted.
23.	Turkey	05 Mn USD	**Min 50%**	1 to 6	• The Minister of Defence through an undersecretary for the defence industries is in - charge of the industrial participation / offset directive. • The offset fulfillment time is 2 years, which is unusually short.
24.	UAE	10 million USD	**Min 60%**	The offset credit is not evaluated on the investments, but through profit over time of an offset venture.	• **Management of offset is by the Offset Program Bureau**. • **The UAE seeks to channel defence-related investments into profitable projects in various sectors to help diversify the UAE economy. Offset-derived projects have included fish farming and processing; horticulture; health care; and the production of firefighting materials**. • The UAE is the first and only Arab country in the Middle East to partner with the U.S. defence industry (Northrop Grumman) by investing $500 million to develop new, Active Electronically Scan Array radar for F- 16 fighters. Any future sales would provide royalty revenue for the kingdom.

25.	UK	10 Mn £	**100%**	No multipliers are provided.	• **Offset policy as combination of direct and indirect offsets**. • Department of Defence is in charge but **offset proposals are processed through the UK Trade & Investment under the Ministry of State for Trade, Investment and Business**. • Signatory to bilateral agreements with Germany and France for defence deals upto 50 Mn £.
26.	USA	-	**-**	-	• The US is formally against offsets. • To date it is perhaps the only country that prohibits US government officials and employees, as well as, government agencies to get involved in offset business. • **US dependence on foreign defence prime contractors is less than 01% of its defence procurements**. • While the US does not have a stated offsets policy, it has been argued that a number of its procurement policies designed to benefit domestic industry (eg. specialty metals) serve a similar function.

Appendix C

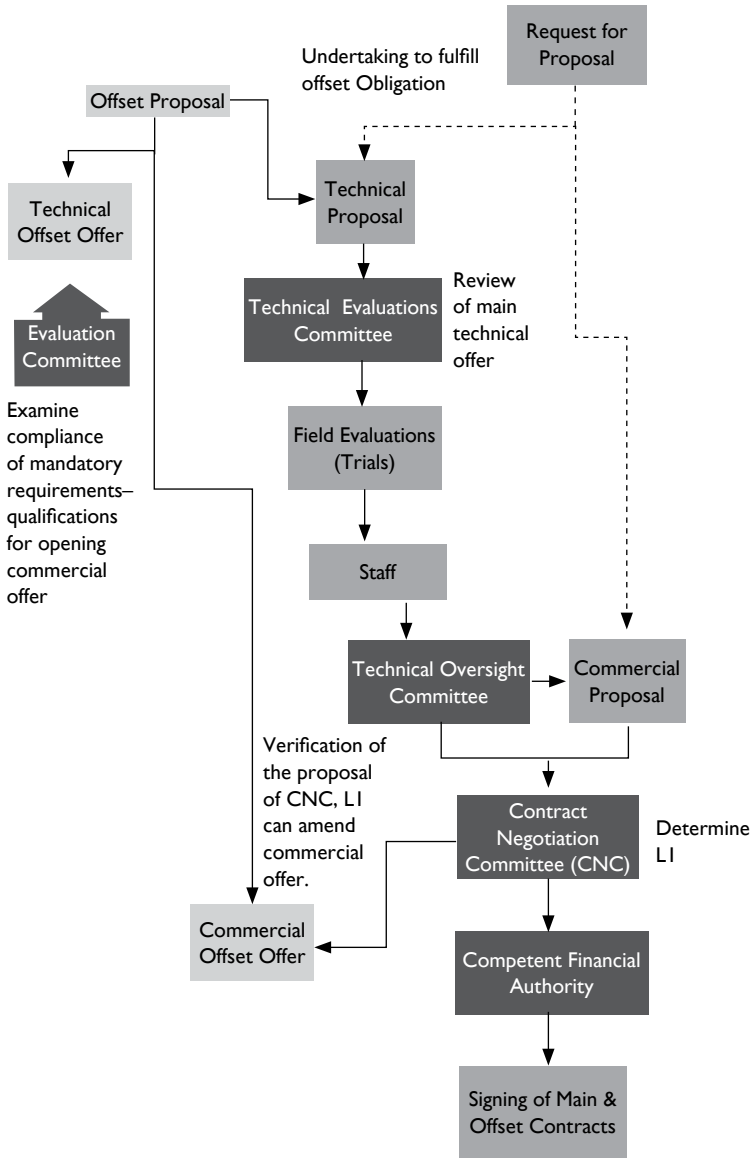
(Refers to Chapter 4)

Evolution of the Indian Defence Offset Policy



Source: Indian Defence Offsets: A Preliminary Appraisal, Issue Brief, CLAWS

Offset Proposal Processing Process



Source: Dhiraj Mathur (PwC India), "Offset Obligation in Defense Sector," presentation made at USI BC, Washington, DC (December 9, 2008).

Appendix E

Avenues for Offset Discharge

For the purpose of defence capital acquisitions, offset obligations may be discharged by any one or a combination of the following methods:

(a) Direct purchase of, or executing export orders for, eligible products manufactured, or services provided by, Indian enterprises, i.e. Defence Public Sector Undertakings, (DPSUs) Ordnance Factory Board (OFB) and private and public sector Indian enterprises. The list of products and services eligible for discharge of offset obligations is at Annexure VI to Appendix-D of DPP 2013.

(b) Foreign Direct Investment (FDI) in joint ventures with Indian enterprises (equity investment) for the manufacture and/or maintenance of eligible products and provision of eligible services. Such investment would be subject to the guidelines/licensing requirements stipulated by the Department of Industrial Policy and Promotion.

(c) Investment in 'kind' in terms of Transfer of Technology (ToT) to Indian enterprises for the manufacture and/or maintenance of eligible products and provision of eligible services. This could be through joint ventures or through the non-equity route for co-production, co-development and production or licensed production of eligible products and eligible services. The investment in kind in terms of ToT must cover all documentation, training and consultancy required for full ToT (civil infrastructure and equipment is excluded). The ToT should be provided without licence fee and there should be no restriction on domestic production, sale or export.

(d) Investment in 'kind' in Indian enterprises in terms of provision of equipment through the non-equity route for the manufacture and/ or maintenance of eligible products and provision of eligible services (excluding ToT, civil infrastructure and second hand equipment).

(e) Provision of equipment and/or ToT to government institutions and establishments engaged in the manufacture and/or maintenance of eligible products and provision of eligible services, including the DRDO (as distinct from Indian enterprises). This will include augmenting

capacity for research, design and development, training and education but exclude civil infrastructure.

(f) Technology acquisition by the DRDO in areas of high technology listed in Annexure-VIII to Appendix-D to DPP-2013.

Appendix F
(Refers to Chapter 4)

ORGANISATION OF DOMW, MINISTRY OF DEFENCE