
Core Industries, the Backbone of All Industries and Inflow of Fdi: An Analysis

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ABSTRACT

India is a store house of natural resources. The effective and efficient use of these natural resources may lead to substantial economic growth. The social and economic disparities, regional imbalances, poverty, migration, unemployment, sluggish economic growths etc. can easily be removed through proper exploitation of these resources. Non-availability of funds was one of the biggest bottleneck in exploiting these resources. Internal financial resources crunch led to exploring external resources. To resolve the issue of financial crunch, it was decided by the policy makers to open up the economy for foreign investors. It was believed that foreign investment will bring new capital, technology, managerial expertise and access to foreign markets. In this paper an attempt has been made to assess the foreign direct investment (FDI) policies particularly related to core industries i.e. power, coal, fertilizers, steel, cement, refinery products, crude oil, natural gas and fertilizers. It has also been tried to find out the FDI inflow in these industries and further effort has also been made to analyse the inflow of FDI in the regions looking at the prospects of core industries in those regions. The study is based on secondary data. The study reveals that investments in the core industries were not up to the mark as it was expected by the policy makers. The flow of FDI in the core sector was almost negligible. The flow of FDI in core industries has been showing declining trends except power sector. The regions that have high prospects for developing the core industries have not that much of FDI inflow as it was in other regions. The policy makers have to make see level changes in the FDI policies not only in the taxation and raising the sectoral caps but also in developing infrastructure, single window system for clearance of proposals, corruption free environment, removal of restrictive trade policies, a strong political will power to make the changes, strong and well defined legislation etc.

Key Words: Foreign Direct Investment, Core Industries, Sectoral Cap, Metallurgical, DIPP, Automatic Route, Restrictive Policy

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INTRODUCTION

India is a store house of natural resources. The effective and efficient use of these natural resources may lead to substantial economic growth. The social and economic disparities, regional imbalances, poverty, migration, unemployment, sluggish economic growths etc. can easily be removed through proper exploitation of these resources. Non-availability of funds was one of the biggest bottleneck in exploiting these resources. Internal financial resources crunch led to exploring external resources. Indian economy was in tremendous pressure before the liberalization, privatization and globalization (LPG) in the year 1991. The major part of the GDP was going in paying the interest on debt borrowed from World Bank and International Monetary Fund (IMF). The survival and sustainability of the economy was the biggest challenge before the government. The then government took a firm decision to open up its economy for the world. A cautious approach was adopted by the policymakers to liberalize, privatize and globalize (LPG) the economy initially. The pace of LPG was slow but steady. To resolve the issue of financial crunch, it was decided by the policy makers to open up the economy for foreign investors. It was believed that foreign investment will bring new capital, technology, managerial expertise and access to foreign markets.

The foreign investment could be in the form of foreign direct investment (FDI), retained earnings, investment in securities/stocks by individuals and foreign institutional investors (FIIs). The IMF definition of FDI includes as many as twelve different elements – equity capital, reinvested earnings of foreign companies, intercompany debt transactions, short term and long term loans, financial leasing, trade credits, grants, bonds, non-cash acquisition of equity, investment made by foreign venture capital investors, earning data of indirectly held FDI enterprises, control premium, and non- competition fee. FDI is defined as money spent on acquiring or starting companies plus the retained earnings of foreign-owned firms. Technically, FDI requires both the transfer of capital and some degree of managerial control (UNCTAD, 1999). FDI occurs when an investor based in one country (the home country) acquires an asset in another country (the host country) with the intent to manage that asset. The management

dimension is what distinguishes FDI from portfolio investment in foreign stocks, bonds and other financial instruments' (WTO, 1996). FDI is an international financial flow with the intention of controlling or participating in the management of an enterprise in a foreign country (Mamun, 2003). FDI can be distinguished from portfolio investment as a form of long term international capital movement, made for the purpose of productive activity and accompanied by the intention of managerial control or participation in the management of a foreign firm. Whereas portfolio management does not seek management control, but is motivated by profit.

In this paper an attempt has been made to assess the foreign direct investment (FDI) policies particularly related to core industries i.e. power, coal, fertilizers, steel, cement, refinery products, crude oil, natural gas and fertilizers. It has also been tried to find out the FDI inflow in these industries and further effort has also been made to analyse the inflow of FDI in the regions looking at the prospects of core industries in those regions. The study is based on secondary data. The data has been compiled from the website of Department of Industries Policy and Promotion (DIPP), Government of India. Various journals, books on FDI, News letters published by DIPP, UNCTD reports, newspaper reports on FDI, articles available on various websites, RBI reports, various economic survey reports published by Government of India etc. have been referred for the present study.

OBJECTIVES OF THE STUDY:

Core industries i.e. power, coal, fertilizers, steel, cement, refinery products, crude oil, natural gas and fertilizers are the backbone of all other industries. Without setting up of these industries other industries cannot flourish. These core industries are the base for other industries. Development of core industries can lead to accelerate the pace in growth of other industries. Core industries provide basic input to all other major industries. Developed nations have strengthened their basic capabilities which led to rapid industrialization. Our industries have always been in clutches of fund deficiency. FDI was expected to free our economy from fund shortage. Though, India had also started pro-FDI policies long back in some sectors with certain restrictions. Realizing the importance of FDI for the development and removal of the financial crunch, India has further relaxed the norms for the smoother flow of FDI. FDI has been seen as

panacea for economic growth. The governments in the past and present as well have pushed hard itself to attract more FDI. There has been see level changes in the policy formulation and implementation now. The present study is targeted to fulfill the following objectives:

- To critically evaluate the FDI policy particularly to Core Industrial Sector
- To analyse the Core Industry-wise FDI inflow over a period of 11 years
- To find out the region-wise Foreign Direct Investment and prospects of core industries in those regions

FDI POLICY MEASURES:

Post independence the FDI policies were mainly conditioned by two factors: the Industrial Policy Resolution of 1948 and 1956. Major Transnational National Corporations (TNCs) in that period were oil companies. Oil companies use to import crude oil from their parent company and shipped in their own tankers. This practice was used to get benefit from transfer pricing and shifting profit from subsidiaries to the head office. The crude oil other than brought by these transnational companies refused to be refined. Ultimately government had to increase its refining capacity and formed ONGC and IOC in 1959. Oil companies were nationalized by the government in the seventies. Afterwards the government was skeptical to offer the foreign investment in such industries that were of great importance to the economy.

To boost the export from the country Free Trade Zones (FTZ) in Kandla, Bombay, Gujarat and Santa Cruz were set up in 1965 and 1972. Tax exemptions and other concessions were given to the companies investing in these zones. However, this initiative did not get much response. In 1969, it was decided to set up three groups of industries (i) where there would be FDI without technical collaborations, (ii) with technical collaboration and (iii) no foreign participation. Owing to foreign exchange crisis, it was decided that those companies who are subsidiaries to foreign companies and these companies holding more than 40 percent of shares had to apply to the RBI for approval, if such companies had to merge, expand and to purchase of shares in other firms. FERA came into force in the year 1974. The government of India issued Industrial Policy in the year 1973. The policy statement generally came up with the list of industries in which foreign investment with or without FDI (that is only technical collaboration) could be possible.

The intention was to restrict the foreign companies to sectors producing intermediate and capital goods. Further, foreign investment was also allowed in such sectors, where the amount of investment required was high and investment was only possible as Joint Venture with the government.

In the year 1974 Foreign Exchange Regulation Act (FERA) came into force. The main purpose of FERA was to regulate the foreign exchange. The foreign companies that were exporting their products and had investments in core sectors were encouraged. As per FERA, firms that were exporting 60 percent of output, the equity participation up to 74 per cent was allowed. Up to 51 per cent foreign equity was permissible if 60 per cent of the firm's turnover was in core sectors and had exported 10 percent of production. Those firms who had been exporting its 100 per cent production were allowed 100 per cent foreign equity participation (Dhar, ISID). The provision of caps in FDI and investment in specified sectors under FERA was done to discourage those firms that were operating as a foreign branch and were getting taxation benefits. However, 249 companies were given exemption from the provisions of FERA. These firms mainly from tea plantations, drugs, and pharmaceuticals, subsidiaries of large TNCs. Tea companies were allowed to retain 74 per cent equity even after non-compliance of export commitment. It was felt that these companies will not market tea produced in India under their brand and which would lead to reduction in foreign exchange earnings. Similarly the drug companies were also given exemption.

Looking at the FDI inflow in seventies, the government further liberalized the FDI norms. With the Industrial Policy Statement of 1980, 1982 and Technology Statement of 1983 the government started the process of de-licensing and reversing the negative effect of Industrial Policy Resolution 1948 and 1956. At the same time, some of the restrictive features of MRTP Act were sought to be done away with (Kumar, 1997). It was proposed to set up four new Export Processing Zones (EPZs). There was proposal to relaxing equity restriction under FERA for 100 per cent export processing units. Further, trade liberalization, substantial reduction in tariffs and shifted the licensed items for imports to open general license (OGL). Industrial Policy Resolution, 1956 revision resulted in the opening up of public sector reserved area; removal of entry level hurdles under Industries Development and Regulation Act (INDRA), doing away

with the registration requirements under MRTP Act; removal of the restrictions of FDI entry in low technology consumer goods; abandonment of the phased manufacturing programme 'export obligation' liberalization of the terms of import of technology and royalty payment etc. (Rao et al., 1999).

Before 1991, the pre liberalization era, Indian economy was under tremendous pressure. Pressures generated by the large and persistent fiscal deficit and foreign exchange crisis, persistent fiscal deficit, high tariffs and industrial licensing that led to widened the balance of payment position. The overall slowdown in global trade and disruption in Eastern Europe and the Gulf crisis of August 1990 further aggravated the crisis. There was eruption of foreign exchange crisis. There was only US\$ 975 million on 12 July 1991 (Reddy, 2007). It was supposed to be only a week's value of import bills. The government came up with the policies in 1991 to bring in order the imbalances. To boost the exports the devaluation of the currency was done. The currency was made fully convertible. Domestic market was liberalized along with elimination of price control and reduction of subsidies on agricultural inputs and products. The government spending was curtailed down to reduce the budget deficit.

Barriers in trade further eased to make industries more competitive by de-licensing, deregulation of industry, trade and commerce. The government further replaced the FERA with FEMA, removal of industries from public sector, automatic approvals of foreign technology agreements and for 51 percent foreign equity participation, private participation in infrastructure, freer import of capital goods, liberal policies for attracting FDI. To attract the FDI, the number of products in which FDI was not permitted under previous policies, were reduced. The foreign investors were allowed to compete in the domestic market. The equity participation in most of the cases was left with the foreign investors to decide that how many shares investors want to hold. Entry procedures were simplified to lure the foreign investors.

In response to the major macro-economic crisis the Government of India came up with the New Economic Policy 1991. A new investment policy was initiated with three tiers for approval, negotiating and facilitating the foreign investment viz., (i) Reserve Bank of India's automatic approval system, (ii) Secretariat of Industrial Approvals (SIA) for the proposals that was outside

the ambit of the RBI and (iii) the Foreign Investment Promotion Board (FIPB), created for inviting, negotiating and facilitating the foreign investment. Liberalization of economy for external sectors during the first decade after LPG in 1991 was highly successful. It eased the BOP crisis and took Indian economy to growth path.

With the new Industrial Policy of 1991, India started a new phase in FDI. The importance of FDI was felt as compared to loans and other forms of assistance for the economic development. Up to 51 per cent equity was permitted in specified industries producing intermediate and capital goods. Similar percentage was permitted in high priority areas with the necessary amendments in FERA. The balancing of dividends and export earnings was no longer to be insisted upon (except in consumer goods). The technology import component and permission to bring in foreign technician which was mandatory for the foreign equity proposal, was done away with. The Foreign Investment Proposal Board (FIPB) was established to negotiate directly with foreign investors for increasing the investment in telecommunication, power etc. sectors. The most important feature of New Industrial Policy 1991 was automatic approval up to 51 per cent of foreign equity in selected industries. The approvals were done by RBI within 15 days. If proposal for foreign investment in equity was more than 51 per cent (not covered by automatic route) and investment was less than Rs. 300 crores, the proposal had to be approved by FIPB. In all other cases the approval of Cabinet Committee was essential. The FIPB was constituted of the Principal Secretary to the Prime Minister as Chairman, the Finance Secretary, the Commerce Secretary and the Industry Secretary. A number of policy measures have been made to lure the FDI. In most of the sectors the FDI limit has been raised to 100 percent. In mid January 2004, the central government reviewed its policy on FDI and increased investment limits in banking, petroleum and natural gas.

RECENT POLICY MEASURES FOR CORE INDUSTRIES (DIPP policy document 2006-2017)

There are certain core sectors where up to 100 per cent FDI in equity permitted through Automatic Route/Government Route. These sectors are;

(a) FDI up to 100 percent in mining and mineral separation of titanium bearing minerals & ores, its value addition and integrated activities subject to sectoral regulations and the Mines and Minerals (Development and Regulation Act 1957), is allowed through government route. India has large reserves of beach sand minerals in the coastal stretches around the country. Titanium bearing minerals viz. Ilmenite, rutile and leucoxene, and Zirconium bearing minerals including zircon, are some of the beach sand minerals which have been classified as “prescribed substances” under the Atomic Energy Act, 1962. Under the Industrial Policy Statement 1991, mining and production of minerals classified as “prescribed substances” and specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953 were included in the list of industries reserved for the public sector.

Later, the Department of Atomic Energy laid down the policy for exploitation of beach sand minerals and in that policy private participation and Foreign Direct Investment (FDI) was permitted in mining and production of Titanium ores (Ilmenite, Rutile and Leucoxene) and Zirconium minerals (Zircon). Further, under the Atomic Energy Act 1962, Titanium bearing ores and concentrates (Ilmenite, Rutile and Leucoxene) and Zirconium, its alloys and compounds and minerals/concentrates including Zircon, were removed from the list of “prescribed substances”. FDI for separation of titanium bearing minerals & ores will be subject to the following additional conditions viz.: (i) Value addition facilities are set up within India along with transfer of technology; (ii) Disposal of tailings during the mineral separation shall be carried out in accordance with regulations framed by the Atomic Energy Regulatory Board such as Atomic Energy (Radiation Protection) Rules, 2004 and the Atomic Energy (Safe Disposal of Radioactive Wastes) Rules, 1987, (iii) FDI will not be allowed in mining of “prescribed substances” listed in the Notification issued by the Department of Atomic Energy.

(b) Coal & Lignite (coal & lignite mining for captive consumption by power projects, iron & steel and cement units and other eligible activities permitted under and subject to the provisions of Coal Mines (Nationalization) Act, 1973, setting up coal processing plants like washeries subject to the condition that the company shall not do coal mining and shall not sell washed coal or sized coal from its coal processing plants in the open market and shall supply the washed or sized coal to those parties who are supplying raw coal to coal processing plants for washing or sizing).

(c) Petroleum & Natural Gas (exploration activities of oil and natural gas fields, infrastructure related to marketing of petroleum products and natural gas, marketing of natural gas and petroleum products, petroleum product pipelines, natural gas/pipelines, LNG re-gasification infrastructure, market study and formulation and petroleum refining in the private sector, subject to the existing sectoral policy and regulatory framework in the oil marketing sector and the policy of the government on private participation in exploration of oil and the discovered fields of national oil companies, petroleum refining by the public sector undertakings (PSU), without any disinvestment or dilution of domestic equity in the existing PSUs)

(d) Power including generation (except Atomic energy); transmission, distribution and power trading up to 100 percent through automatic route is also allowed subject to provisions of the Electricity Act, 2003. Generation, transmission and distribution of electricity produced in atomic power plant/atomic energy is prohibited as it is reserved for public sector.

(e) The Government has announced a policy for providing preference to domestically manufactured Iron & Steel products in Government procurement. This policy seeks to accomplish PM's vision of 'Make in India' with objective of nation building and encourage domestic manufacturing and is applicable on all government tenders where price bid is yet to be opened. Further, the Policy provides a minimum value addition of 15 percent in notified steel products which are covered under preferential procurement.

In view of rising imports, the Government had earlier raised import duty on most steel items twice, each time by 2.5 percent and imposed a gamut of measures including anti-dumping and safeguard duties on a host of applicable iron and steel items. In a further move to curb steel imports, the Indian government banned the production and sale of steel products that does not meet Bureau of Indian Standard (BIS) approval and to check the sale of defective and sub-standard stainless steel products used for making utensils and various kitchen appliances, it issued the Stainless Steel (Quality Control) Order, 2016 for products used in making utensils and kitchen appliances, that will help filter imports of the metal. Again, in February 2016, the Indian Government had imposed the Minimum Import Price (MIP) condition on 173 steel products. The MIP was extended thrice and ceased to be effective in February 2017. Currently, a mix of anti-

dumping /safeguard and other measures are in place on a range of steel items to control the inflow of cheap steel.

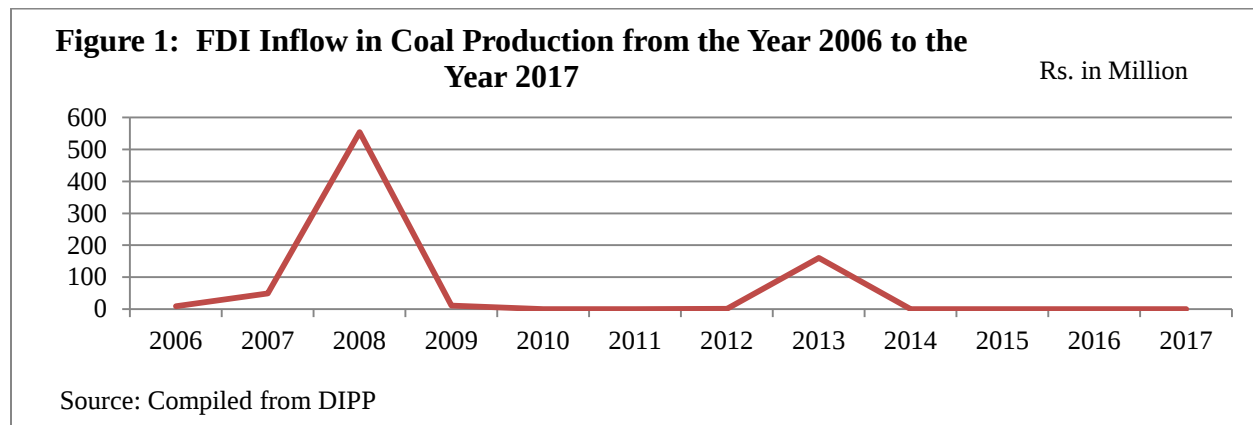
The New Industrial policy opened up the Indian iron and steel industry for private investment by (a) removing it from the list of industries reserved for public sector and (b) exempting it from compulsory licensing. Imports of foreign technology as well as foreign direct investment are now freely permitted up to certain limits under an automatic route. In Budget 2017-18 provides for reduction in basic Custom Duty for hot rolled coils for use in manufacture of welded tubes and pipes reduced from 12.5 percent to 10 percent and Magnesium Oxide (MgO) coated cold rolled steel coils from 10 percent to 5 percent (DIPP, 2017). Ministry of Steel is setting up a Steel Research & Technology Mission of India (SRTMI), to facilitate joint collaborative research projects in the iron & steel sector in India. Initial corpus for setting up of SRTMI is INR 200 crore of which 50 percent is being provided by Ministry of Steel and the balance by the participating steel companies.

FDI IN VARIOUS CORE SECTORS: AN ANALYSIS

COAL AND LIGNITE

Coal and Lignite sector is one of the growing sectors in India. The Coal and Lignite sector has a great impact on the power generation sector of India. In India, 80 percent of mining is in coal and the balance 20 percent is in various metals and other raw materials such as gold, copper, iron, lead, bauxite, zinc and uranium. Coal has been recognized as the most important source of energy for electricity generation in India. About 75 percent of the coal in India is consumed in the power sector (Indiacore). In addition, other industries like steel, cement, fertilizers, chemicals, paper and thousands of medium and small-scale industries are also dependent on coal for their process and energy requirements. Coal is not a renewable resource, one day it will exhaust. The lignite reserves in India are estimated at around 36 billion tonnes, of which 90 percent occur in the southern state of Tamil Nadu. The states where lignite deposits have been located are: Tamil Nadu, Rajasthan, Gujarat, Kerala, Jammu and Kashmir and Union Territory of Pondicherry. India has an estimated 315.149 billion tonnes of coal resources, according to inventory data calculated by the Geological Survey of India (GOI, 2018).

India rank fourth largest in coal reserves (286 BT) and the third largest coal producing country in the world. The demand for coal in 2017-18 was estimated to be 908.40 million tonnes, whereas the domestic availability was estimated at 730.10 million tonnes. The gap of 178.30 million tonnes was projected to be met through imports (MoC, 2018). Allowing 100 per cent foreign direct investment (FDI) was expected to attract global miners to invest in India. It was also expected that entrance of global coal miners will benefit the sector in the long run through increased technology adoption and mechanization in mining operations thereby helping achieve better operational efficiency for the industry. To meet the country's growing demand for coal, Coal India Limited (CIL) has expressed intent for foreign collaboration with the objectives to bring technologies and advanced management skills for running underground (UG) and opencast (OC) mines, exploration and exploitation of coal-bed methane and in situ gasification of coal, locating overseas companies interested in joint ventures for overseas operations in the field of coal mining with special thrust on coking coal mining and exploring financial assistance for import of equipment and other investment needs for Coal Industry.



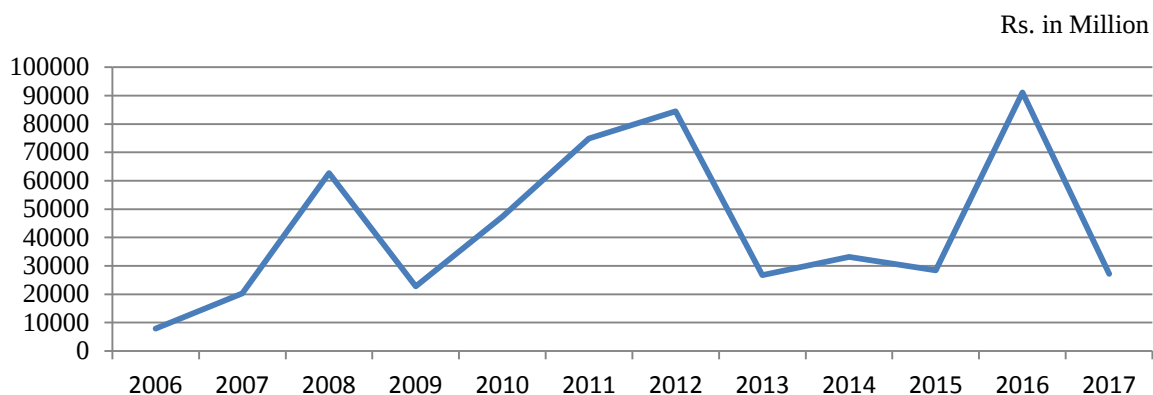
The installed coal-based electricity generation capacity is expected to grow to 330- 441 GW by 2040. FDI in coal production was highest in the year 2008 and in the 2013. Rest in all the years it is almost negligible. The CGR was -1.00.

STEEL

India was the world's second largest steel producer, as of 2018. The country is slated to surpass USA to become the world's second largest steel consumer in 2019. The liberalization of

industrial policy and other initiatives taken by the Government have given a definite impetus for entry, participation and growth of the private sector in the steel industry. While the existing units are being modernized/ expanded, a large number of new steel plants have also come up in different parts of the country based on modern, cost effective, state of-the-art technologies. In the financial year 2018, India produced 104.98 million tonnes (MT) and 103.13 MT of finished steel and crude steel, respectively. Crude steel production between April 2018-January 2019(P) reached 87.98 million tonnes. Exports and imports of finished steel stood at 5.15 MT and 6.55 MT respectively, during April 2018-January 2019. India's per capita consumption of steel grew to 68.9 Kgs, during 2017-18. National Steel Policy 2017 aims to increase the per capita steel consumption to 160 Kgs by 2030-31(IBEF, 2019). The Government has taken various steps to boost the sector including the introduction of National Steel Policy 2017 and allowing 100 per cent Foreign Direct Investment (FDI) in the steel sector under the automatic route. Major places of steel industries are Jamshedpur, Bhilai, Durgapur, Bhadravati, and Salem. It was expected that Orissa and Jharkhand would be steel junctions of India. India will be the brightest spot for the steel sector over the next 12-18 months, according to Moody's Investors Service. A Moody's statement said India's steel consumption is rising at least 5.5 per cent to 6 per cent every year, tracking strong GDP growth of 7.3 per cent to 7.5 per cent (Business Line, 2018). India is the largest producer of direct reduced iron (DRI) or sponge iron in the world. Production of finished steel (alloys and non-alloys) in 2016-17 at 101.80 million tonnes increased by about 11.89 percent from 90.98 million tonnes achieved in 2015-16 (GOI, MoM 2018).

Figure 2: FDI Inflow in Metallurgical Industries from the Year 2006 to Year 2017



Source: Compiled from DIPP

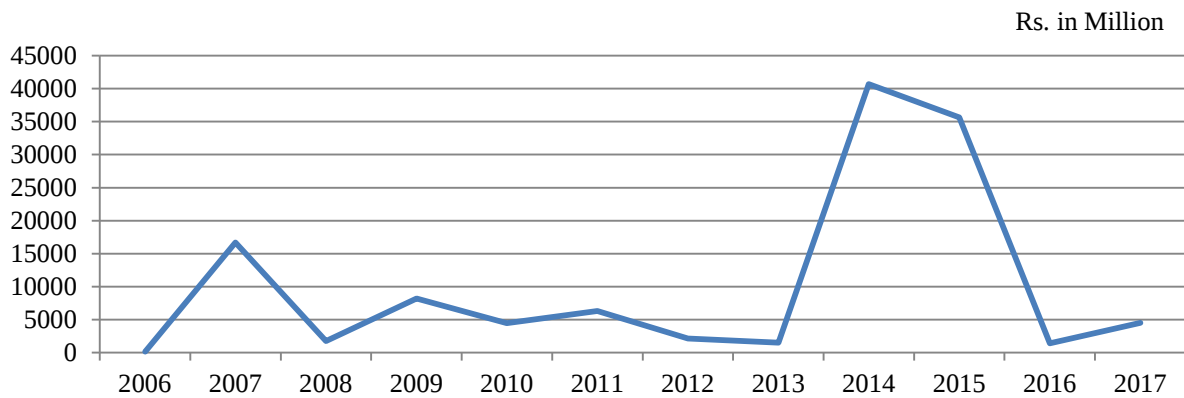
FDI in metallurgical industries was highest in the year 2016. It was followed in the year 2012 and 2011 respectively. Highest annual growth rate (AGR) was 221.07% in the year 2016. Negative annual growth rates were recorded in the year 2009, 2015 and 2017. Table 2 shows that compound annual growth rate for the period 2006 to 2017 was 0.12 percent.

METALS & MINING INDUSTRY IN INDIA

India holds a fair advantage in cost of production and conversion costs in steel and alumina. Its strategic location enables convenient exports to develop as well as the fast-developing Asian markets. India produces 95 minerals– 4 fuel-related minerals, 10 metallic minerals, 23 non-metallic minerals, 3 atomic minerals and 55 minor minerals (including building and other minerals)(IBEF, 2018). Rise in infrastructure development and automotive production are driving growth in the sector. Power and cement industries are also aiding growth in the metals and mining sector. Demand for iron and steel is set to continue, given the strong growth expectations for the residential and commercial building industry. India stood as the third largest crude steel producer with output of 101.4 million tonnes in 2017 (The Economic Times, 2018). Crude steel production in the country rose to 102.34 million tonnes in FY18. Under the Mines and Minerals (Development and Regulation) Act of 1957, FDI up to 100 percent under Automatic route is allowed for the mining and exploration of metal and non- metal ores including diamond, gold, silver and precious ores, while FDI up to 100 percent under

government route is allowed in for mining and mineral separation of titanium bearing minerals

Figure 3: FDI Inflow in Mining from the Year 2006 to Year 2017



Source: Compiled from DIPP

and its ores. Figure 3 depicts that FDI in mining industry was highest in the year 2014 during the study period. Table 3 reveals that it was Rs. 40,678.12 million. Though in the next year 2015 FDI was dropped by -12.44 percent yet it was second highest FDI inflow. 70 percent of the total FDI inflow during the period has come in the years 2014, 2015 and 2007 only. CAGR of FDI in mining was 0.37 percent for the period. In the initial years FDI inflow was not that much. It took sudden jump in the years 2014 and 2015 but afterwards it reduced drastically.

CEMENT

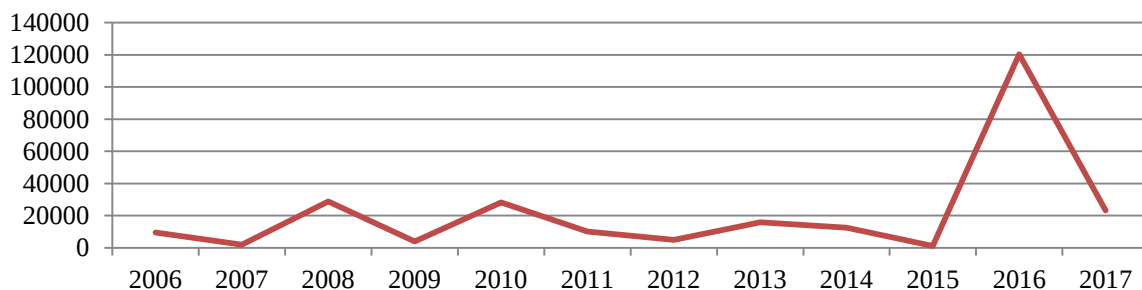
India is the second largest producer of cement in the world. No wonder, India's cement industry is a vital part of its economy, providing employment to more than a million people, directly or indirectly. Government data places the country's cement production capacity utilisation rate at 59 percent. The local cement sector had a production capacity of 509 million tonnes per year and it produced 298 million tonnes in 2018 from 143 integrated plants, 102 grinding plants, five standalone clinker plants and 62 mini plants. India has a cement consumption of 235kg/capita compared to the global average of 520kg/capita (The Cement Industry – India 2018) (Global Cement, 2019). Tamil Nadu, Orissa, Rajasthan, Andhra Pradesh and Himachal Pradesh are the major cement producing states in India. The cement industry was deregulated in 1982. Due to the

increasing demand in various sectors such as housing, commercial construction and industrial construction, cement industry is expected to reach 550-600 Million Tonnes Per Annum (MTPA) by the year 2025. With the help from the government in terms of friendlier laws, lower taxation, and increased infrastructure spending, the sector is expected to grow and take India's economy forward along with it. The housing and real estate sector is the biggest demand driver of cement, accounting for about 65 per cent of the total consumption in India.

The other major consumers of cement include public infrastructure at 20 per cent and industrial development at 15 per cent. India is the second largest cement producer in the world. Of the total 210 large cement plants in India, 77 are situated in the states of Andhra Pradesh, Rajasthan & Tamil Nadu (Megaladevi, 2018). It is expected that with the new projects i.e. dedicated freight corridors, housing for all, metro rail, urban housing schemes etc. announced by the Government of India, the demand for the cement that may increase exorbitantly.

Figure 4: FDI Inflow in Cement and Gypsum from the Year 2006 to the Year 2017

Rs. in Million



Source: Compiled from DIPP

The increased allocation to rural low-cost housing under Pradhan Mantri Awaas Yojana- Gramin scheme to Rs 23,000 crore (US\$ 3.45 billion) in FY18 from Rs 16,000 crore (US\$ 2.4 billion) in FY17 is likely to drive a 2 per cent increase in cement demand (Press Information Bureau, 2017). The highest FDI flow was recorded in the year 2016. It was Rs. 120399.03 million. Second and third highest was in the years 2008 and 2010 respectively. Major jump in FDI inflow was reported in the year 2016. Table 4 shows that there were negative annual growth rates in the

years 2007, 2009, 2011, 2012, 2015, 2017. Compound Annual Growth Rate for the period was 0.08 percent.

CRUDE OIL

The oil and gas sector is among the eight core industries in India and plays a major role in influencing decision making for all the other important sections of the economy. India's economic growth is closely related to energy demand. Therefore, the need for oil and gas is projected to grow more, thereby making the sector quite conducive for investment. The Government of India has adopted several policies to fulfill the increasing demand. India is expected to be one of the largest contributors to non-OECD petroleum consumption growth globally. India retained its spot as the third largest consumer of oil in the world in 2017 with consumption of 4.69 mbpd of oil in 2017, compared to 4.56 mbpd in 2016. India was the fourth-largest Liquefied Natural Gas (LNG) importer in 2017 after Japan, South Korea and China. LNG imports increased to 26.11 bcm in 2017-18 from 24.48 bcm in 2016-17 (IBEF, 2018). Energy demand of India is anticipated to grow faster than energy demand of all major economies. In September 2018, Government of India approved fiscal incentives to attract investments and technology to improve recovery from oil fields which is expected to lead to hydrocarbon production worth Rs 50 lakh crore (US\$ 745.82 billion) in the next twenty years (The Times of India, 2018).

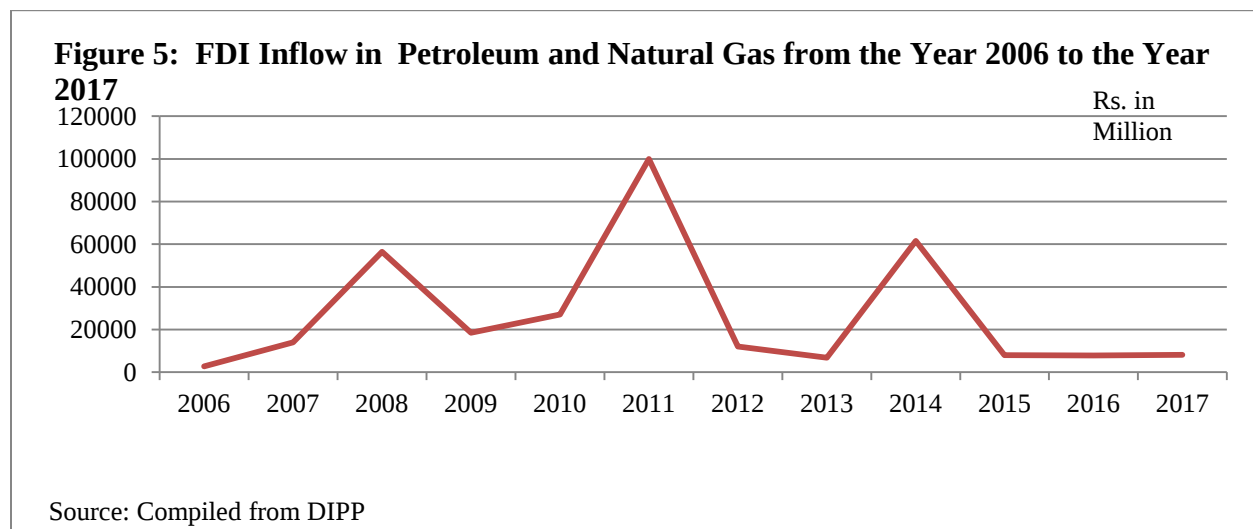
PETROLEUM OIL AND REFINERIES

Crude oil production in 2016-17 at 36.00 million tonnes registered a decrease of 2.52 percent as compared to that in 2015-16. The production of natural gas (utilised) was at 31,896 million cubic metres in 2016-17, 1.09 percent lower than 32,249 million cubic metres achieved in 2015-16. The refinery crude throughput of 245.36 million tonnes in 2016-17 was 5.36 percent higher than 232.86 million tonnes processed in 2015-16. The total refining capacity in the country was about 233.96 MMTPA as on 1.4.2017.

REFINING

As of May 1, 2018, the oil refining capacity of India stood at 247.6 million tonnes, making it the second largest refiner in Asia. Private companies own about 35.62 per cent of the total refining capacity. India is the second largest refiner in Asia (US Energy Information Administration (EIA), Ministry of Petroleum and Natural Gas). India is the world's fourth-largest energy consumer. India's consumption of petroleum products grew 5.31 per cent to 204.992 MMT in 2017-18 from 194.597 MMT in Financial Year 2017. Petroleum products' consumption during April 2018 stood at 17.668 MMT. India was 3rd largest consumer of crude oil and petroleum products in the world in 2016. India is the fourth-largest consumer of oil and petroleum products.

LNG imports into the country accounted for about one-fourth of total gas demand, which is estimated to further increase by two times, over next five years. To meet this rising demand the country plans to increase its LNG import capacity to 50 million tonnes in the coming years. India increasingly relies on imported LNG; the country is the fourth largest LNG importer and accounted for 5.68 per cent of global imports. India imported 18.05 MMT of LNG during 2017-18, in comparison to 18.63 MMT in 2016-17.



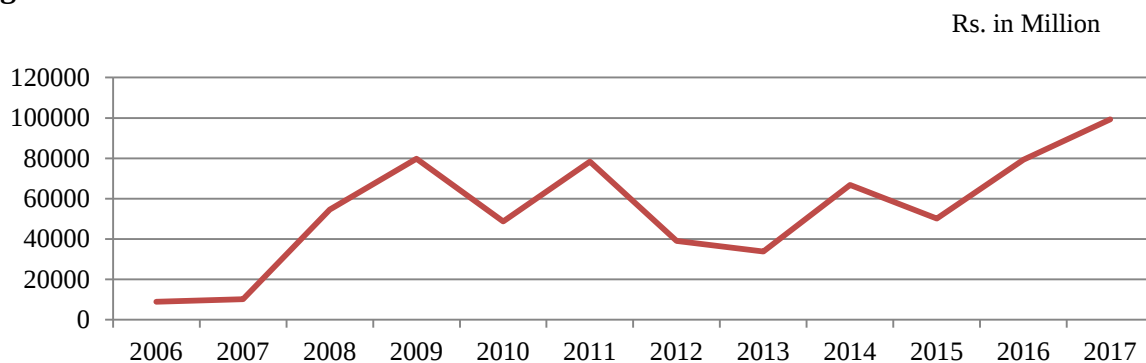
Imports during April 2018 stood at 1.72 MMT. Demand is not likely to simmer down anytime soon, given strong economic growth and rising urbanisation. Gas consumption is projected to reach 216 bcm by 2021-22. India's LNG imports increased at a CAGR of 8.14 per cent during FY08–FY18. Auto LPG consumption advanced 0.1 per cent or about 20 MT in April 2018. Figure 5 shows that FDI in Petroleum and natural gas was highest in the year 2011. More than 60

percent of the total FDI has come in the years 2008, 2011 and 2014 only during the study period. Negative annual growths were recorded in the years 2009, 2012, 2013, 2015 and 2016 (Table 5). CAGR was 0.10 percent for the study period.

POWER

Electricity Act 2003 has been enacted and came into force from 15.06.2003. The objective was to introduce competition, protect consumer's interests and provide power for all. The Act provides for National Electricity Policy, Rural Electrification, open access in transmission, phased open access in distribution, mandatory SERCs, license free generation and distribution, power trading, mandatory metering and stringent penalties for theft of electricity. The Electricity Act, 2003 has been amended on two occasions by the Electricity (Amendment) Act, 2003 and the Electricity (Amendment) Act, 2007. The aim is to push the sector onto a trajectory of sound commercial growth and to enable the states and the centre to move in harmony and coordination. The electricity generation target of conventional sources for the year 2018-19 has been fixed as 1265 Billion Unit (BU). i.e. growth of around 4.87 percent over actual conventional generation of 1206.306 BU for the previous year (2017-18).

Figure 6: FDI Inflow in Power from the Year 2006 to the Year 2017



Source: Compiled from DIPP

The conventional generation during 2017-18 was 1206.306 BU as compared to 1160.141 BU generated during 2016-17, representing a growth of about 3.98 percent. The electricity generation target of conventional sources for the year 2018-19 was fixed at 1265 BU comprising

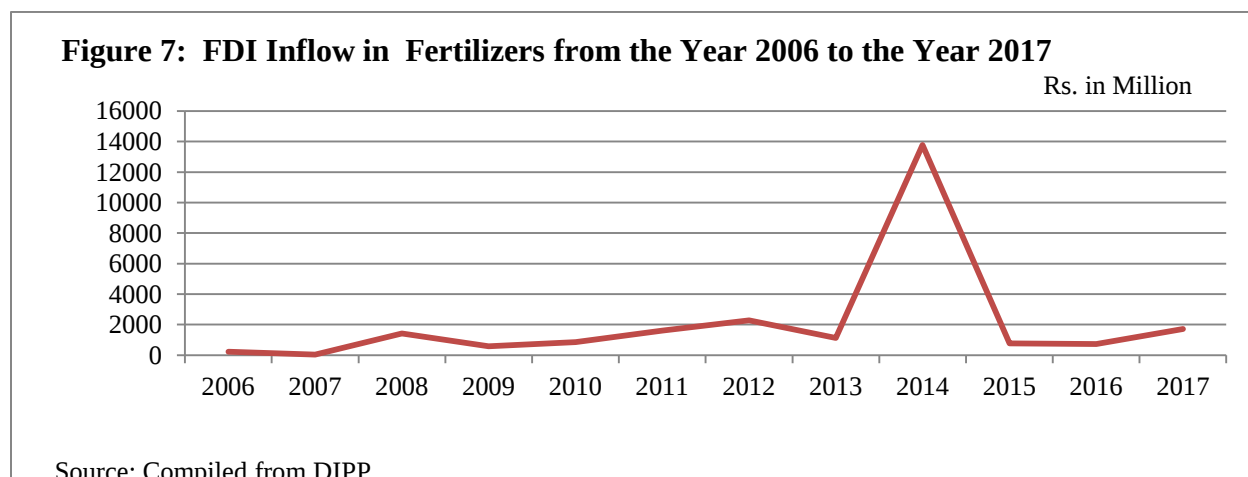
of 1091.500 BU thermal; 130.000 BU hydro; 38.500 nuclear; and 5.000 BU import from Bhutan (GOI, MoP, 2019). All-India installed power generation capacity has increased substantially over the years. It has reached at 3, 30,860.6 MW as on 30th November, 2017. In order to enhance power supply in rural areas many schemes were launched by government of India. Figure 6 shows that FDI in power generation has been increasing in the later stage of study period. However, a little decrease was observed in the year 2015 with a share of 7.72 percent from the total and -24.97 percent decrease over previous year. Table 6 shows that AGR in the years 2010, 2012, 2013 and 2015 were negative. CAGR for the study period was 0.24 percent.

FERTILIZERS

Agriculture which accounts for about one seventh of the GDP provides sustenance to nearly two-third of our population. It also provides crucial backward and forward linkages to the rest of the economy. Successive five year plans have laid emphasis on self sufficiency and self-reliance in food grain production and concerted efforts in this direction have resulted in substantial increase in agriculture production and productivity. India fertilizers market is expected to grow owing to continuous growth of population which is resulting in more demand for food, coupled with increasing demand for agricultural products in the country. India is one of the leading producers of agricultural products such as pulses, wheat, rice, groundnut, potatoes, onion etc., thereby leading to high demand for fertilizers in the country.

FERTILIZER INDUSTRY AT A GLANCE	
Size of Industry	57 large fertilizers plants and 64 medium and small sized chemical fertilizers production in India
Types of Fertilizers	Urea, DAP, Complex Fertilizers, Ammonium Sulphate (AS), Calcium Ammonium Nitrate (CAN) are produce in India.
Position in the World	Third in World of Fertilizer Production
Market Capitalisation	25 % of GDP
Source: krishijagran.com	

In the financial year 2016-17, approximately 2.86 million Muriate of Potash (MOP) was consumed, out of which the majority was imported (TECHSCI RESEARCH, 2018). Raw materials and intermediates for the phosphatic fertilizers are largely imported. For potash (K), since there are no viable sources /reserves in the country, its entire requirement is met through imports. The actual production of all the Fertilizers during the year 2016-17 was 414.41 LMT. The estimated production of all the Fertilizers during the year 2017-18 is expected to be 462.20 LMT showing an increase of more than 11 percent in comparison with the previous year (Government of India, Ministry of Chemicals & Fertilizers, Department of Fertilizers, Annual Report 2017-18). The Government had announced New Investment Policy (NIP)-2012 on 2nd January, 2013 and its amendment on 7th October, 2014 to facilitate fresh investment in urea sector and to make India self-sufficient in the urea sector.



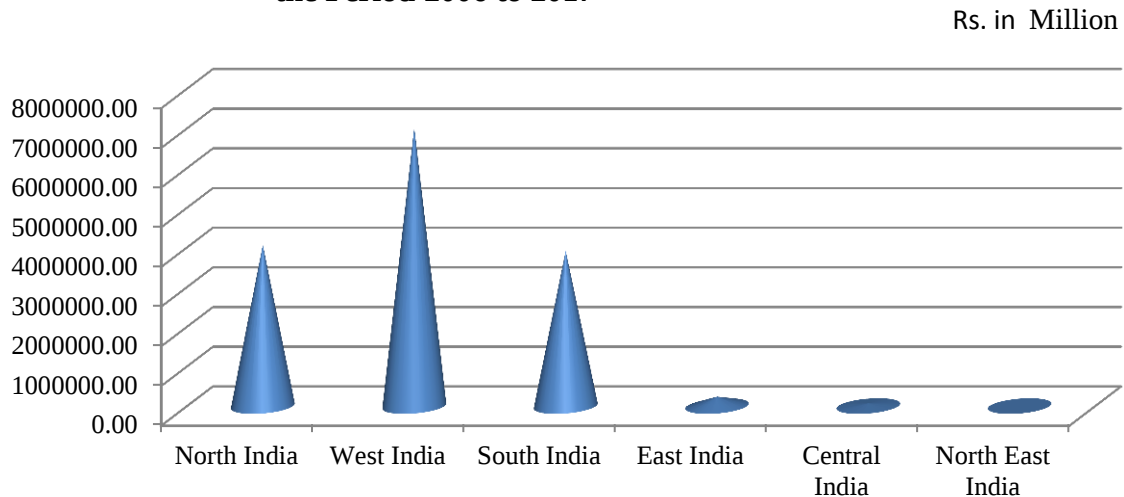
The Government of India has notified the New Urea Policy (NUP) - 2015 on 25th May, 2015 for existing 25 gas based urea units with the objective of (i) maximizing indigenous urea production; (ii) promoting energy efficiency in urea production; and (iii) rationalizing subsidy burden on the government. The government has also issued revised energy norms under New Urea Policy 2015 for existing 25 gas based urea plants in the country. Entire quantity of indigenously produced urea and imported urea is being neem coated w.e.f 1st September, 2015 and 1st December, 2015 respectively. As revealed in the figure 7, FDI in fertilizers was almost negligible in all the years except in the year 2014. Major part i.e. 54.76 percent of the total FDI inflow during the study period was in the year 2014. Table 7 shows that in the years 2007, 2009, 2013, 2015 and 2016,

annual growth rate (AGR) was negative. CAGR was also below one percent. It was 0.20 percent only.

INFLOW OF FDI IN VARIOUS REGIONS

As shown in figure 8, West India is the highest recipient of the FDI during the study period which is followed by North India and South India. North East India, Central India and East Indian regions are the less recipient of FDI. Infrastructure development, availability of natural resources, availability of human resource, state government policies, law and order, banking and other financial services, well developed transportation system, strong industrial base etc. are some of the factors that also influence the attraction of FDI. The regions where FDI was high are the regions that are comparatively developed regions and provide conducive environment for the investors. To attract the investment in other regions it is imperative to develop infrastructure and to provide other allied facilities that are essential for the investment. The states where lignite deposits have been located are Tamil Nadu, Rajasthan, Gujarat, Kerala, Jammu and Kashmir and Union Territory of Pondicherry. Chhattisgarh, Jharkhand, Orissa, Madhya Pradesh, Andhra Pradesh, Maharashtra, West Bengal, Uttar Pradesh, Meghalaya and Assam are the rich coal states. Major places of steel industries are Jamshedpur, Bhilai, Durgapur, Bhadravati, and Salem. Tamil Nadu, Orissa, Rajasthan, Andhra Pradesh and Himachal Pradesh are the major cement producing states in India. Onshore Natural Gas is produced in Assam, Gujarat, Tripura, Rajasthan, Tamil Nadu, Andhra Pradesh, West Bengal (CBM), Arunachal Pradesh, Madhya Pradesh (CBM) and Jharkhand (CBM).

Figure 8: Regionwise Inflow of Foreign Direct Investment (FDI) from the Period 2006 to 2017



Source: Compiled from DIPP

The petroleum reserves of India are situated in Gujarat, Bombay High (next to the seashore of Maharashtra), eastern Assam, and Rajasthan satisfy about one fourth of the requirements of the nation. Tamil Nadu, Karnataka, Maharashtra, Kerala, Gujarat, Uttarakhand, Andhra Pradesh, Arunachal Pradesh, Uttar Pradesh and West Bengal are the top organic fertilizers producing states. Gujarat, Karnataka, Chennai, Tamil Nadu, Orissa, Madhya Pradesh Punjab and Assam are the states where major refineries are located. Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, Uttar Pradesh are the major states that have highest electricity generation capacities. Substantial part of the core industries are also situated in the Central India, East India and North East India but the inflow of FDI is not substantial as compared to Western and South India. As in annexure table 8 reveals that the CAGR for the study period in all the regions is less than 0.20 percent. AGR also shows a variation in the flow of FDI in all the regions. In many years it has been showing negative annual growth rate almost in all the regions.

CONCLUSIONS AND SUGGESTIONS

Core industries i.e. power, coal, fertilizers, steel, cement, refinery products, crude oil, natural gas and fertilizers are the backbone of all other industries. Without setting up and strengthening of these industries other industries cannot flourish. These core industries are the base for other industries. Development of core industries can lead to accelerate the pace in growth of other

industries. Core industries provide basic input to all other major industries. The study reveals that investments in the core industries were not up to the mark as it was expected by the policy makers. The flow of FDI in the core sector was almost negligible. The flow of FDI in core industries has been showing declining trends except power sector. The regions that have high prospects for developing the core industries have not that much of FDI inflow as it was in other regions. Long delays in getting regulatory approvals, challenges in land acquisition, and infrastructure deficits, have often emerged as key reasons for the limited growth in India's captive coal mining (ICRA) (India Today, 2018). Further, there is also an urgent need to adopt some possible measures like rationalization of coal linkage, dedicated freight corridors to improve the situation, need to develop skill sets of mining professionals, promoting underground mining, and cleaner coal technologies for sustainable development. More R&D and efforts are required to promote coal to liquids (CTL), coal bed methane (CBM) and underground coal gasification (UCG) (Indian Chamber of Commerce, 2013). The government of India continues to ignore the difficulties faced by the fertilizer industry related to fertilizer certifications and proper standards. At present, the import duty on both imported raw materials and finished products is same, whereas raw materials should attract lower custom duty than finished products to encourage the production in India. Also, there is no mandatory certification exists in the market. The Indian fertilizers industry faces some serious challenges in the form of availability and fluctuating prices of raw materials required to produce fertilizers. The primary cause of fertilizer price fluctuations is related to the supply and demand factors. India also faces a handicap due to lack of natural resources required to produce fertilizers. In case of urea, there is not enough natural gas available in the country (TECHSCI RESEARCH, 2018). The shortfalls in target achievement are due to many factors, including law & order problems in many coal block areas, non-availability of Forest clearance etc. (GOI, Ministry of Coal, Annual Report 2017-18). The policy makers have to make see level changes in the FDI policies not only in the taxation and raising the sectoral caps but also in developing infrastructure, single window system for clearance of FDI proposal, corruption free environment, removal of restrictive trade policies, a strong political will power to make the changes, strong and well defined legislation, speedy clearance for acquisition of land, forest and environment from agencies of the government etc.

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ANNEXURE:

Table 1: FDI Inflow in Coal Production from the Year 2006 to Year 2017				
(Rs. in Millions)				
Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	8.80	-	-	1.12
2007	48.91	40.11	455.80	6.24
2008	554.40	505.49	1033.51	70.70
2009	10.70	-543.70	-98.07	1.36
2010	0.00	-10.70	-100.00	0.00
2011	0.00	0.00	-	0.00
2012	0.52	0.52	-!	0.07

2013	160.79	160.27	30821.15	20.51
2014	0.00	-160.79	-100.00	0.00
2015	0.00	0.00	-	0.00
2016	0.00	0.00	-	0.00
2017	0.00	0.00	-	0.00
Total	784.12			100.00
CGR	-1.00			

Table 2: FDI Inflow in Metallurgical Industries from the Year 2006 to Year 2017 (Rs. in Millions)				
Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	7,846.58	-	-	1.49
2007	20,298.60	12,452.02	158.69	3.85
2008	62,668.48	42,369.88	208.73	11.90
2009	22,787.35	-39,881.13	-63.64	4.33
2010	47,404.47	24,617.12	108.03	9.00
2011	74,859.21	27,454.74	57.92	14.21
2012	84,476.15	9,616.94	12.85	16.04
2013	26,752.20	-57,723.95	-68.33	5.08
2014	33,129.61	6,377.41	23.84	6.29
2015	28,360.39	-4,769.22	-14.40	5.38
2016	91,057.96	62,697.57	221.07	17.29
2017	27,134.25	-63,923.71	-70.20	5.15
Total	526,775.25		CAGR	0.12

Table 3: FDI Inflow in Mining from the Year 2006 to Year 2017 (Rs. in Millions)				
Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	146.19	-	-	0.12
2007	16,681.16	16,534.97	11310.60	13.51
2008	1,754.70	-14,926.46	-89.48	1.42
2009	8,216.96	6,462.26	368.28	6.65
2010	4,451.42	-3,765.54	-45.83	3.60
2011	6,307.71	1,856.29	41.70	5.11
2012	2,162.87	-4,144.84	-65.71	1.75

2013	1,521.84	-641.03	-29.64	1.23
2014	40,678.12	39,156.28	2572.96	32.94
2015	35,617.49	-5,060.63	-12.44	28.84
2016	1,413.02	-34,204.47	-96.03	1.14
2017	4,534.33	3,121.31	220.90	3.67
Total	123485.81		CAGR	0.37

Table 4: FDI Inflow in Cement and Gypsum Products from the Year 2006 to Year 2017
(Rs. in Millions)

Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	9520.07	-	-	3.65
2007	1844.91	-7675.16	-80.62	0.71
2008	28869.39	27024.48	1464.81	11.08
2009	3973.35	-24896.04	-86.24	1.52
2010	28210.82	24237.47	610.00	10.83
2011	10155.81	-18055.01	-64.00	3.90
2012	4825.90	-5329.91	-52.48	1.85
2013	15911.12	11085.22	229.70	6.11
2014	12535.94	-3375.18	-21.21	4.81
2015	1042.47	-11493.47	-91.68	0.40
2016	120399.03	119356.56	11449.40	46.20
2017	23308.30	-97090.73	-80.64	8.94
Total	260597.11			100.00
CAGR	0.08			

Table 5: FDI Inflow in Petroleum & Natural Gas from the Year 2006 to Year 2017

(Rs. in Million)

Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	2712.50	-	-	0.84
2007	13937.68	11225.18	413.83	4.32
2008	56415.76	42478.08	304.77	17.48
2009	18488.72	-37927.04	-67.23	5.73
2010	27086.18	8597.46	46.50	8.39
2011	99909.54	72823.36	268.86	30.95

2012	12012.66	-87896.88	-87.98	3.72
2013	6853.28	-5159.38	-42.95	2.12
2014	61549.23	54695.95	798.10	19.07
2015	7933.32	-53615.91	-87.11	2.46
2016	7787.11	-146.21	-1.84	2.41
2017	8097.85	310.74	3.99	2.51
Total	322783.83			100
CAGR	0.10			

Table 6: FDI Inflow in Power sector from the Year 2006 to Year 2017

(Rs. in Million)

Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	8931.46	-	-	1.38
2007	10207.64	1276.18	14.29	1.57
2008	54612.13	44404.49	435.01	8.42
2009	79771.86	25159.73	46.07	12.29
2010	48676.88	-31094.98	-38.98	7.50
2011	78393.75	29716.87	61.05	12.08
2012	39058.98	-39334.77	-50.18	6.02
2013	33770.79	-5288.19	-13.54	5.20
2014	66773.12	33002.33	97.72	10.29
2015	50097.23	-16675.89	-24.97	7.72
2016	79270.20	29172.97	58.23	12.22
2017	99261.17	19990.97	25.22	15.30
Total	648825.21			100
CAGR	0.24			

Table 7: FDI Inflow in Fertilizers from the Year 2006 to Year 2017

(Rs. in Million)

Year	FDI Inflow	Inc./Dec. over Previous Year	AGR	Percentage Share from the Total
2006	228.23	-	-	0.91
2007	48.33	-179.90	-78.82	0.19
2008	1414.31	1365.98	2826.36	5.62
2009	584.81	-829.50	-58.65	2.32
2010	857.98	273.17	46.71	3.41

2011	1609.58	751.60	87.60	6.40
2012	2289.72	680.14	42.26	9.10
2013	1123.69	-1166.03	-50.92	4.47
2014	13776.23	12652.54	1125.98	54.76
2015	774.82	-13001.41	-94.38	3.08
2016	722.87	-51.95	-6.70	2.87
2017	1725.15	1002.28	138.65	6.86
Total	25155.72			100.00
CGR	0.20			

Table 8: Region-wise Inflow of Foreign Direct Investment (FDI) from the Year 2006-2017

(Rs. in Millions)

Year	North India	West India	South India	East India	Central India	North East India
2006	101561.38 (2.49) 0.00	178969.63 (2.55) 0.00	106236.57 (2.71) 0.00	3924.83 (1.65) 0.00	749.42 (1.06) 0.00	0.00 (0.00) 0.00
2007	141429.36 (3.47) 39.26	197369.27 (2.81) 10.28	111425.54 (2.84) 4.88	16494.79 (6.92) 320.27	2045.52 (2.88) 172.95	110.00 (2.34) 0.00
2008	110351.36 (2.71) -21.97	804225.84 (11.44) 307.47	220231.87 (5.62) 97.65	21508.30 (9.03) 30.39	1226.11 (1.73) -40.06	1764.66 (37.51) 1504.24
2009	371167.91 (9.11) 236.35	598837.23 (8.52) -25.54	170281.15 (4.35) -22.68	6182.23 (2.59) -71.26	2762.60 (3.89) 125.31	334.13 (7.10) -81.07
2010	232034.15 (5.70) -37.49	330491.14 (4.70) -44.81	176704.09 (4.51) 3.77	12219.69 (5.13) 97.66	19860.14 (27.98) 618.89	176.16 (3.74) -47.28
2011	328304.46 (8.06) 41.49	469406.36 (6.68) 42.03	188118.63 (4.80) 6.46	19560.88 (8.21) 60.08	7087.85 (9.99) -64.31	408.51 (8.68) 131.90
2012	257257.86 (6.32) -21.64	463836.30 (6.60) -1.19	228788.09 (5.84) 21.62	19895.55 (8.35) 1.71	8988.38 (12.67) 26.81	273.32 (5.81) -33.09
2013	179065.31 (4.40) -30.39	308399.48 (4.39) -33.51	297633.26 (7.60) 30.09	27223.80 (11.43) 36.83	10479.44 (14.77) 16.59	38.12 (0.81) -86.05
2014	492034.96 (12.08) 174.78	366820.73 (5.22) 18.94	447160.83 (11.41) 50.24	23767.81 (9.98) -12.69	6120.48 (8.62) -41.60	86.15 (1.83) 126.00
2015	902687.08	619526.58	728155.10	63489.30	3651.93	626.26

	(22.17) 83.46	(8.81) 68.89	(18.59) 62.84	(26.65) 167.12	(5.15) -40.33	(13.31) 626.94
2016	479867.09 (11.78) -46.84	1700515.15 (24.18) 174.49	446653.02 (11.40) -38.66	9075.91 (3.81) -85.70	3424.69 (4.83) -6.22	331.14 (7.04) -47.12
2017	476,541.22 (11.70) -0.69	993,561.87 (14.13) -41.57	796,381.31 (20.33) 78.30	14,926.78 (6.26) 64.47	4,570.72 (6.44) 33.46	556.15 (11.82) 67.95
TOTAL	4072302.14 (100)	7031959.58 (100)	3917769.46 (100)	238269.87 (100)	70967.28 (100)	4704.60 (100)
CAGR	0.15	0.17	0.20	0.13	0.18	0.18
Source: Compiled from DIPP (Numbers in brackets shows percent share from the total) (Numbers in bold shows Annual Growth Rate (AGR))						