Conclusion, Recommendations and Suggestions

6.1 Introduction:

The sweeping changes introduced since 1991 mark a radical departure from the past and reflect a positive approach towards foreign investment. The changes provide freedom to foreign investors to enter the Indian economy. In terms of openness to FDI entry, the prevailing Indian policy is favourably placed in terms of competitiveness with other major FDI receiving countries in Asia.

The new industrial policy resolution, initiated economic reforms in July 1991. The industrial policy reforms 1991 have substantially reduced the industrial licensing requirement, removed restrictions on expansion and facilitated easy access to direct foreign investment. One of the key focus areas of our reforms is the redefinition of the respective roles of the public and private sector, within the private sector the contribution of foreign investment. There is recognition that the private sector including foreign investors has a significant role to play in raising the standard of living and infrastructure services in the country. Therefore due to 1991 reforms the flow of private capital in the form of FDI enhanced. The inflow of FDI in India has experienced considerable growth but compared to other developing nations, India has lagged behind. Whereas China could attract around one-fourth of the global foreign investment, India attracts only about 2% of FDI inflows. This indicates that India, despite being 10th largest economy with economic liberalization, has failed to attract sufficient amount of FDI during the period under study.

From my study, it is evident that FDI is considered to be an important vehicle for economic development in India. It impacts the country's trade balance, improving labour standards and skills, transfer of technology and innovative ideas and the general business climates. It also provides opportunities for technological transfer and up-gradation, access to global managerial skills and practices, optimal utilization of human capabilities and natural resources, making indigenous industry internationally competitive, opening up exports markets, access to international quality goods & services and augmenting employment opportunities.

In addition it is also obvious that although FDI is beneficial for an economy yet, its effectiveness depends upon its meaningful use and it's directing to the areas/sectors where shortage of domestic capital investment is felt. More specifically from the
development point of view FDI process is related to export oriented areas. This process not only provides financial resources managerial expertise, technologies and entrepreneurial skills through the channel of MNCs. The FDI policy has to be constantly reviewed towards this end and necessary steps should be taken to make India a most favourable destination for FDI. The focus of FDI should be to maximize its contribution to India’s development and welfare rather than maximizing the magnitude of inflows.

However, the presence of FDI in Indian economy in general and pharmaceuticals industry in particular does not mean automatic positive effects. It depends on the development of the domestic firms and the endeavors of domestic firms to invest in learning and imitation. Therefore, the benefits from FDI don’t accrue automatically and evenly across the country and sectors. In order to reap the maximum benefits from FDI, there is a need to establish a transparent broad and effective enabling policy environment for investment and to put in place appropriate framework for their implementation. Such an environment must provides incentives for innovations and improvement of skills and contribute towards improved competitiveness. The cumulative amount of FDI inflows during August 1991 to February 2011 is US$145249 million.

From the previous chapters, it can also be deduced that since the liberalization policy of 1991, the FDI approvals have increased but the actual inflows have been comparatively less. This is because of the intentions of the foreign investors having not matched with the performance. It may also be attributed to lack of political stability, inability of the political decisions, improper unanimity between the centre and the states government, conflict in political parties’ ideologies regarding FDI and corruption etc.

The study concluded that FDI inflows and economic development have shown significant growth during post-reform period (since 1991 onwards). The CAGR of actual FDI inflows during 1991-2008 comes out to be as high as 24.28% as compared to 19.05% during pre-reform period. Similarly the GDP growth rate which had collapsed to 0.8% in 1991-92 rebounded to more than 9% during 2005-08 and 8.4% during 2010-11. Other important macroeconomic indicators also improved i.e. Gross Domestic Savings had increased from 22% in 1991-92 to 32.3% in 2010-11. Similarly Gross Domestic Capital Formation had raised 22.5% to 35.1% during the same period of time. Besides that India has also improved considerably on the
external sector front such as the current account balance, capital account, foreign exchange reserves and overall improvement in BOPs during post reform period.

Sector-wise break-up of FDI inflow during Post reform period revealed that the most leading sector is the services sector which received an approval of US$23,995.7 million. This was shared 20.35% of total amount approved. Computer and IT sector has also registered a good share of 8.52%. Infrastructure sector including communication housing & real estates posted a growth of 7.94%, 7.13% and 6.90% respectively. Together they accounted for more than 50% of the total FDI approved in India. While in the pre-reform period, the top five sectors which have attracted the bulk of FDI were chemicals, industrial machinery, mechanical engineering, electrical & electronics and metallurgy and together they accounted for about 68% of total FDI inflows. However, pharmaceutical sector which was at 8th place during 1991-2007 declined to 12th place after 2007 mainly due to impact of the new patent law and global recession. But the position has now improved.

The total amount of FDI inflow in India comes from these major countries. Mauritius tops the list with a percentage of 45.12%. Singapore is the second country having an approval of 10.04% followed by the USA (9.92%), UK (5.79%) and Germany (3.32%). These top five countries concentrate nearly 75% of the total approval of FDI during the period under consideration.

Similarly the largest source of FDI in India’s pharmaceutical industry is Mauritius (56.4%). Singapore is the second largest source (11.2%) followed by the USA (5.8), UAE (4.7%), and Canada (4%), together they accounted for more than 80% of FDI in this sector during 2008-09. The state-wise FDI trends reveals that Maharashtra tops the list with a percentage share of 35.24% followed by New Delhi with a share of 20.50%, Karnataka (6.26%), Gujarat (5.79%) and Tamil Nadu (4.91%). Together they accounted more than 70% of the total FDI inflows during 2000-10. It is important to note that 75% of pharmaceutical manufacturing production is done by these states Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, Karnataka, West Bengal and Goa. This may be attributed to their better resources, good infrastructure and investor friendly policies. It is further observed that FDI inflows have positive impact on the Indian economy in general and pharmaceutical in particular. It is observed that though larger FDI inflows in these states have had a favourable impact on the economy and pharmaceutical sector, but it has also led to wider regional disparities.
Furthermore, while analyzing FDI in terms of country-wise, sector-wise and state-wise, it may also be concluded that although there has been an impressive growth in the magnitude of FDI inflows but they are still small when compared to the potential of India in terms of its investment opportunities and need. The present time is the age of borderless world, a world where physical distances has no matter. The need of time is not to reverse the process of globalization and FDI but to take bold steps to solve the problem created by the process of globalization. There is only one way forward i.e. more interactions, more interrelation, more coordination and cooperation between domestic and foreign investment. Therefore, well thought strategy and cautious approach should be adopted, so that Indian and foreign companies contribute to the economy simultaneously.

The statistical analysis of the study revealed that in the year 1991 the actual amount of FDI inflow in India was only US$165 million and but over the period it observed an increasing trend to take a figure of US$27331 million in 2008, which is almost 166 times that of the figure of 1991. However, during the period under consideration it has experienced some fluctuations with going down to the minimum of US$165 million to the maximum of US$ 27331 million. The growth rate also indicates considerable fluctuations both in positive and negative rates. It was highest in 2006 (184%). This demonstrates that the inflow is dictated by the external sources rather than internal factors. The average FDI takes a value of US$5919 million with a SD of US$8042.5 million. The t-ratio suggests that the estimate is statistically significant at 10% level. The CV as high as 1.36 suggest the fluctuating nature of the variable. The CAGR is 24.3% during 1991-2008.

While FDI inflow in Indian pharmaceutical was only US$0.3 million and over the period it also observed an increasing trend and reach highest US$334.1 million in 2007 and thereafter it declined to US$181.5 million in 2008, which is 605 times that of the figure of 1991. The growth rates indicates considerable fluctuations both in positive and negative rates and highest was in 1992 (3600%). The share of pharmaceutical industry FDI in total FDI was 2.05% on an average. The inflow in pharmaceutical takes a mean of US$94.3 million and a SD of US$ 100.9 million. The fluctuation is demonstrated by the CV of 1.07. The growth rate is 27% during period of consideration. One of the reasons behind such high growth rate is the big difference between the minimum and maximum value of FDI inflows in
pharmaceutical industry. However, the Durbin-Watson test shows the positive correlation between these two variables i.e. total FDI and FDIPI.

It has been observed that the pharmaceutical investment was US$ 38.4 million in 1991 and it gradually increased to US$4117.1 million in 2008, which is almost 107 times that of 1991 figures. The inflow of FDI in pharmaceutical sector was only US$0.30 million in 1991 and increased to US$ 181.5 million in 2008. The share of FDI in total investment of pharmaceutical industry was 11.8% on an average. The mean of pharmaceutical industry investment is US$ 1027.4 million with a SD of US$ 1282.5 million. The mean of the FDI flows in the pharmaceutical industry is US$ 94.3 million with a SD of US$ 100.9 million. The t-ratio is statistically significant at 10% level. The CV is 1.24 in case of the investment in pharmaceutical industry and 1.07 in case of the FDI inflows to demonstrate the unstable nature of FDI inflows in the industry.

It has been further observed that the regression function takes an F-value of 117.8 which is statistically significant at 5% level. It seems that functional relation assumed by the empirical regression line is true that the investment in pharmaceutical industry is explainable by the FDI inflows in the industry. The coefficient of determinants shows that 97% of the variation of the dependent variable could have been explained by the fit. However the coefficients of slopes are not statistically significant in general.

Most of the coefficients of independent variables are not statistically significant except for export which statistically significant at 5% level. The FDI inflow in the pharmaceutical industry fails to explain the variation in the investment of the industry. However the value of ‘d’ (Durbin-Watson test) is significant as 0.957 and indicates the positive serial correlation amongst the variables. It is indicated that whereas export and profit are important positive significant variables for enhancing the level of investment in pharmaceutical sector while FDIPI has not.

The total production figures indicate that in 1991 the figure was US$2510.6 million, where as it increased to US$17567.6 million in 2008 which is seven times higher than that of the 1991. The mean of the variable is US$6868.4 million and the SD is US$ 4463.5 million. The t-ratio is 6.01 suggesting that the mean is statistically significant at 10% level. The variable is considerably stable as is demonstrated by a comparatively low coefficient of variance of 0.65.
It can be noticed that the regression gives a good fit. The F-statistic suggests that the null hypothesis of untrue relation should be rejected at 5% level. The coefficient of determinant is as high as 0.98 to indicate 98% of the variation in the production of pharmaceutical industry could have been explained by the regression equation. Durbin-Watson test indicates the positive serial correlation among the variables. Among the independent variables only the export is statistically significant at 10% level whereas FDI inflow is not statistically significant to indicate that the production in the pharmaceutical industry could not be explained by the FDI inflow in the industry. However, it is indicated that the export, FDIPI and profit are positively significant for the improvement of pharmaceutical total production.

In 1991 the export of the industry was only US$564.4 million and through a gradual increase it took the amount of US$6257 million in 2008, which is nearly eleven times that of the 1991 figure. The average takes a value of US$ 1862.2 million. The SD is however quite impressive at an amount of US$ 1758.7 million. The t-ratio is 5.84 to indicate that the mean is statistically significant at 10% level. The CV is equally high at 0.94 suggesting that the estimate observes the fair extent of instability.

The F-statistic suggests that the regression is statistically significant at 5% level. The coefficient of determinants is as high as 0.99 or 99% of the variation in the export of pharmaceuticals. However among the coefficient of slopes only total production and investment are statistically significant at 10% and 5% level respectively. The coefficient of FDI inflows in the pharmaceutical industry fails to demonstrate any significant relation towards the promotion of export from the industry. However Durbin-Watson test indicates that there is a positive serial correlation amongst these variables. It is indicated that only total production and investment is positively significant for pharmaceutical export.

The amount of earned profit plays a key role in attracting the FDI inflows. It can be observed that the profit in pharma increased throughout the period under consideration, whereas in 1991 it was only US$14.1 million but by 2008 it reached to a level of US$1356 million. The increase is around ninety-six times. One of the reasons attributed to this is that the number of firms has also increased during the period. However, it is indicated that during 1995 to 1997 the profit trend was declining. The industry faced a stiff competition during the late nineties backed by regional as well as global recession in the same year of that must have contributed to
the adversities in the profit performance. Input prices also increased globally during that period coupled with high market campaigning expenses. The statistical description shows that the mean profit is US$ 577.5 million with the SD 587.6 million. The t-ratio is 7.32 which indicate that the mean is statistically significant at 10% level. The CV is as high as 1.02 which indicates instability in the nature of the variable. The F-statistic suggests that the null hypothesis of untrue relation can be rejected at 5% level. The coefficient of determinants shows that 0.908 or 91% of the variation in the profit figures could have been explained by the regression function. Among the independent variables FDIPI is the only variable which is statistically significant at 1% level. However, Durbin-Watson test indicates the positive serial correlation. It is indicated that FDIPI and total production has significantly positive impact on pharmaceutical profit. It can be observed that the F-statistic is 15.8 to indicate that the regression function is a true functional relation. Coefficient of determinants demonstrated the 0.772 or 77.2% of the variation in the FDI flows can be explained by the profit of the industry. Among the independent variables only profit variable happened to be statistically significant at 1% level. This suggests that it may be the profit of the industry which is the main consideration in the decision making of the FDI in Indian pharmaceutical sector. However, the coefficients of slopes are not statistically significant in general and the Durbin-Watson test shows the no first-order auto correlation.

The employment increased from 181,497 employees in 1995 to 353,692 in 2008. The mean figure of employment in pharmaceutical industry is 243,872.2 with a SD of only 51,406.6 leading to a t-ratio 3.91, significant at 10% level. The CV is only 0.21 which is amazing and suggesting the stable nature of the variable. One of the main reasons behind such impressive statistics is that the period under consideration has severely been constrained by the availability of data. The data were available only from 1995-2008. The regression parameters are not however very satisfactory. The F-statistic was significant to indicate that the null hypothesis of untrue relation can be rejected. Regarding the coefficient of determinants it is highly significant as 97% of the variations could have been explained by the ordinary regression. Among independent variables the coefficient of total production and export are significant at 5% level. However, Durbin-Watson test indicates no first-order auto correlation among them.
6.2 Suggestions and Recommendation:

The FDI inflow in India in absolute figure is quite impressive, but when compared to global flows, it is far from satisfaction. Thus, India at the moment needs a well-balanced strategy for enhanced FDI inflows.

In the context of the importance of FDI inflows in the Indian economy as a whole and pharmaceutical sector in particular. We propose the following measures to attract FDI in India.

6.2.1 Strategies and Implication for FDI in Indian Economy:

- Legal and Regulatory Framework and FDI Policy:

  Indian government has enacted laws for regulation FDI from time to time keeping in view both national and international business environment. Before 1991, FERA was constituted in 1973 for regulation of foreign investment. Nowadays a newly formulated FEMA is taking care of foreign investment regulation. But, the real problem is that all these Acts and different bodies constituted by the government are playing a regulatory role. The need of the hour is to enact a law which should play a promotional role apart from regulation. The government should now emphasis the national investment of FDI and takes care of such sensitive issues like double taxation, single point clearance for investors, eliminating separate clearance at central and states level.

  As the volume of FDI is increasing significantly there are also many fold increase in the problems faced by the foreign investors. The procedures for getting government clearance are very complex especially for the first time investors. So taking in consideration these problems, a non-governmental society or council should be setup with help and encouragement from the DIPP for helping out these investors. These council/societies should operate on a non-profit basis and supply information, approval and clearance services to the foreign investors.

  Economic conditions are critical for attracting FDI, but investor friendly policies and facilitation centers that reduce the transaction costs of planning and engaging with regulatory compliance are also critical. However, sometimes policies are over friendly to FDI while transaction costs (including tax and
other regulatory issues) of investment remain high for domestic players and this can be counter-productive. Such asymmetric treatment of domestic and foreign investment can lead to ‘round-tripping’ i.e. where domestic investors route their investment through a foreign country to avail the policy benefits of FDI. India has seen significant “round-tripping” activity. Since 2000 Mauritius share in FDI inflows to India has been very high and it can be safely argued that a significant portion of FDI originating out of Mauritius is of the ‘round-tripping’ variety. So it is a trade-off between rigid and liberal regulatory framework. The government should check it carefully.

➢ State Infrastructure Law and FDI Policy:
For a long time it has been emphasized, the key to economic development apart from economics is the infrastructure development. Because a well developed infrastructure will play a vital role in attracting FDI. In the light of this different states should consider framing special laws directing investment first in infrastructure and then to other sectors of the economy, covering both domestic as well as foreign investment. Some states have already initiated this process of enacting law for infrastructure development. Andhra Pradesh and Karnataka are the two states which have taken the lead in this; others like Maharashtra, Tamil Nadu, Gujarat are in line.

There should be a joint effort both by central and state government and some kind of coordination committee should be constituted to take up critical issues, which sometimes create problems between states and central government. For example, recently in the case of FDI approval in multiple retail sector was severely opposed by the states. Besides issues such as environmental clearance, industrial relation etc. members from corporate should also be included for broader acceptability.

➢ Institutional Changes and Policy for FDI:
The DIPP plays a pivotal role in regulating FDI, with the help from FIPB, SIA and FIIA and recently CCI (Competition Commission of India). The FIPB which works out the modalities before the approval stage and appraises the proposal should be empowered to grant central level registration, excise registration and income tax registration and DGFT registration, custom excise registration. This will augment the process approvals of FDI proposals.
The FIIA should be given freedom to frame business rules so that it can fix the time frame for investment proposals both at central and state levels. The role of cabinet committee should be curtailed in assessment of proposals and FIIA should be empowered which will reduce approval time. A registration cell related to FDI should be set up so that database can be maintained of FDI projects. It will ensure accelerated approvals of FDI.

- Raising FDI Sectoral Caps and other Allied Issues:
  Attracting FDI is a major issue for India for the overall development of the economy. But there are many barriers attached which restrict the smooth inflow of FDI. The sectoral limits which are enforced should be properly evaluated in an explicit manner and should be justified. Otherwise, the sectoral caps which are not properly justified should be removed.

- Reduction in Transaction Costs and Improvement of Infrastructure:
  More than any FDI policy it is the level of business comfort and profitability of operation that attract FDI. Transaction costs of operating business in India remain prohibitive and infrastructure and logistical support is too weak. India first must become a competitive production base where people would want to invest. Implementation of trade facilitation reforms will lead to stronger trade linkages with rest of the world.

- Decentralization of Administration Process:
  India’s FDI policy process still remains highly centralized in New Delhi and that is another major impediment in effective competition between states and efficacy in administration of FDI initiatives in many parts of India. Although thing have improved in terms of decentralization but, the entire FDI policy environment still remains in centered around New Delhi and not the state capitals where they should be given the diversity of India’s economic prospects.

- Reduce Overly Bureaucratic Facilities:
  India’s bureaucratic setup maintains several investment and trade promotion bodies that work at cross purposes. There are too many ‘single windows’ and investment development commissions working at the same time. There is also a lack of policy consistency. There needs to be a real ‘single window’ that draws
from the sectoral expertise of the different ministries and more importantly the private sector.

➢ Proper Coordination between Centre and States:
While many policy barriers have been removed on FDI in India, results have at times been disappointing due to administrative barriers at the state level as well as lack of coordination between the central and state governments. There need to be greater coordination between the centre and states to ensure that the substantial foreign interest in investing in India gets translated into actual investment flows to the state. An example of this is the proposed USS 12 billion investment, India’s single largest FDI investment by South Korean steel giant Posco. Posco signed an agreement in June 2005 to set up a steel plant in Orissa but as on March 2008, the steel plant is yet to be start construction, let alone any operations. The government should check above kind of problems which foreign investor faced.

➢ Need for Simple and Transparent FDI Facilitation Structure:
Currently, in India the FDI facilitation structure is quite complex. The IIC (Indian Investment Centre) which was originally mandated to pursue these objectives is almost defunct now. Till 1991, the Department of Economic Affairs was the nodal department that dealt with foreign investment policy and regulated the flow of FDI. But the SIA, which accepted and approved foreign investment application, functioned in the ministry of industries. Post 1991, the subject of foreign investment policy has been with the DIPP but SIA, as it is now known is no longer the secretariat for FIPB. The finance secretary chairs the FIPB and all foreign investment cases are processed in the finance ministry. The process has been further complicated by the establishment of FIIA in 1999, to facilitate quick translation of FDI approvals into implementation, provide a proactive one-stop aftercare service to foreign investors. The FIIA has created FTCs (Fast Track Committees) in 30 ministries/departments in the central government. The constitution of FIIA is almost the same as the FIPB. Whereas the secretariat for FIPB is in the finance ministry, that of the FIIA is DIPP. It is clear that by creating two distinct bodies, FIPB and FIIA the system has now become more complex and confusing. Further currently, CCI has empowered to regulate the Brownfield investment in the pharmaceutical industry. Thus, it
is suggested that one stop department or agency should be established which should take care of the whole process of FDI in India.

➢ Investment Opportunities in North-Eastern Region:

The North-East which has got its definite entity due to its peculiar physical, natural, economic, social and cultural characteristics and is the poorest and remotest part of the country is yet to enjoy significant share of the benefits of liberalized process due to one or other factors. Though India has become one of the power magnate of FDI in Asia (after China), the inflows of it in the North-East is quite meager. A unique competitive advantage of the region is its strategic location. Almost 98% of its boarders from India’s international boundaries as well as most attractive tourist destinations are found here.

It is deduced in the chapter 3rd that almost half of the FDI is received by only few developed states like Maharashtra, Delhi, Gujarat, Karnataka and Tamil Nadu due to better infrastructure and a more developed industrial and financial sector. That is FDI has been concentrated in relatively developed states where large amount of public investment has been made and transportation and communication facilities are more developed. Keeping in view the strategic importance of North-East region, it is suggested that the economic development of this extremely backward regions should not be left. Public investment has to be increased to ensure that adequate infrastructure is created in this region to provide the pre condition for private investors to come forward and make investment in future and to ensure that regional disparities do not widen too much in India.

➢ Liberalization in Exit Barriers:

An exit policy needs to be formulated so that firms can enter and exit freely from the market. While the reforms implemented so far have helped remove the entry barriers, the liberalization of exit barriers has yet to take place. This is a major deterrent to large volumes of FDI flowing to India. While it would be incorrect to ignore the need and potential merit of certain safeguards, it is also important to recognize that safeguards if wrongly designed and/or poorly enforced would turn into barriers that may adversely affect the health of the firm.
➢ Need for more Flexible Labour Laws:

In India, large firms are not allowed to retrench or layoff any workers or close down the units without the permission of the state government. While, the law was enacted with a view to monitor unfair retrenchment and layoff, in effect it has turned out to be a provision for job security in privately owned large firms. This is very much in line with the job security provided to public sector employees. Labour-intensive manufacturing exports require competitive and flexible enterprises that can vary their employment according to changes in market demand and changes in technology, so India remains an unattractive base for such production in part because of the continuing obstacles to flexible management of the labour force.

➢ Reduction in Tariff and Corporate Tax Rates:

India’s tariff rates are still among the highest in the world, and continue to block India’s attractiveness as an export platform for labour-intensive manufacturing production. Much greater openness is required which among other things would include further reduction of tariff rates. Most importantly, tariff rates on imported capital goods used for export, and on imported inputs into export production, should be duty free.

Presently corporate tax rate in East Asia are generally in the range of 10 to 25% compared with a rate of 42.02% (tax rate of 40% plus surcharge of 2% plus cess of 3%) for foreign companies in India. High corporate tax rate is definitely a major disincentive to foreign corporate investment in India. Therefore, it is suggested that the tax policy should be rationalized and rates should be such that it gives makes international investor’s investment a profitable one.

➢ Stability in Macro-Economic Fundamentals:

Rationalization and liberalization of FDI policy may be necessary but not sufficient for expanding FDI inflows. The overall macro-economic performance continues to exercise a major influence on the magnitude of FDI inflows by acting as a signaling device for foreign investors about the growth prospect for potential host economy. Hence, paying attention to macro-economic performance indicators such as growth rates of industry through public investments in socio-economic infrastructure and other supportive policies and creating a stable and enabling environment would crowd-in FDI inflows.
inflows. Studies have shown those policies that facilitate domestic investment also pull in FDI inflows. While investment incentives may not be very efficient, active promotion of FDI, by developing certain variable projects and getting key MNEs in them, could be useful in attracting investments in desirable directions.

➢ **Reduce Level of corruption:**

The high corruption in India is another important impediment in FDI inflows. It is an intractable problem. Corruption in India is a consequence of the nexus between bureaucracy, politics and criminals. Indian administrators are tainted with scandals and the country is at 95th place with score 3.1 out of 178 countries where corruption is rampant as per the 'Corruption Perception Index 2011' released by Transparency International India (in this index scores ranges from 0 to 10 where 10 refers to highly clean and 0 refers to highly corrupt).

The effect of corruption on FDI shows in context of the costs of doing business. Since foreign investors have to pay extra, costs in the form of bribes in order to get licenses or government permits to conduct investment, it raises costs of investment. Moreover corruption increases uncertainty because these kinds of agreements are not enforceable in the courts. It has negative impact on level of investment and economic growth, quality of infrastructure and on the productivity of the public investment, healthcare and education. All these factors are found to be important determinants of FDI.

For checking corruption full proof laws should be made so that there is no room for discretion for politician and bureaucrats. The role of the politician should be minimized. Application of the evolved policies should be left in the hands of independent commission and authority in each area of public interest. Local bodies, independent of the government like Lok-pals, Lok-adalats and Central vigilance commission should be formed.

### 6.2.2 Strategies and Implication for FDI in Indian Pharmaceutical Industry:

Over a period of time the IPI has promoted, integrated, and induced self-sustained growth of the Indian economy. However, there is a pressing need to lift up the sector as an impetus of industrial growth and employment and to
achieve a high degree of value addition in the country. IPI is currently recognized as ‘global pharmacy’ of developing world and has distinction of providing quality healthcare at affordable cost. The IPI is currently divided into three-tier structure. Large MNCs operates as originator drug companies, generic companies along with large Indian generic companies and medium and small scale industries. Pharmaceutical industry contributed nearly 12% of India’s manufacturing sector GDP and around 2% of the country’s GDP during 2008-09. Besides this drugs & pharmaceuticals, have been consistently 5th largest exported principal commodity of the country for the last several years. In terms of trade balance it is the only Indian sector after apparels that have consistently given positive trade balance and it growing around 1.5-1.6 times of country GDP growth rate. Furthermore it is a net earner of foreign exchange and this kept increasing throughout the years since 1991. Its turnover also witnessed a tremendous growth over the past few years i.e. from US$2857.14 million in 1990-91 to US$20787.40 million in 2009-10 i.e. raised more than seven-folds. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously.

At the global arena IPI ranks very high and is placed third in the world in terms of technology, quality and range of medicines manufactured. The country now ranks third world-wide by volume of production also and 14th by value of production. Globally it ranks 4th in terms of generic production and 3rd largest bulk drugs producers in the world. It ranks 17th in terms of export value of bulk drugs & formulations. India account for over one-third of DMFs in USA and 30% of all approved ANDAs in the US. Even in patent challenges India ranks 2nd only next to USA with a share of 21% of patent challenges.

The 1990s witnessed the strongest performance of the IPI on several fronts. Not only did the industry exceed its output expansion of the previous decades, but it actually became a net foreign exchange earner. This performance followed the changes in the policy orientation of the Indian economy that took place in 1991. Industry thus took advantages of the unshackling of the industrial sector during the 1990s from the controls imposed by the government. The rapid opening up of what had been largely an insulated
Economy to international trade and investment brought about a swift response from the leading firms in the pharmaceutical industry.

The production of bulk drugs rose from US$396.5 million in 1991 to US$3503.2 million in 2008 showing a CAGR of 14.4% during 2006-08. The production of formulation on the other hand increased from US$2114.5 million to US$15390.8 million during the same period of time with CAGR of 23.6%. A noteworthy feature of the analysis is that during 2005-08 the CAGR of bulk drugs production was nearly half as compared to the growth rate of formulations production. It is indicated that formulation production increases at a faster rate as compared to the bulk drugs production. This reveals that IPI is shifting from the production and trading of less value added goods (bulk drugs) to high value added goods (formulations) during post-reform period.

Similarly the export performance of the pharmaceutical industry is also very remarkable given that it has been the only amongst the major industrial sector to have consistently generated trade surplus irrespective to global crisis. Indian pharmaceutical export increased from US$ 564.4 million in 1991 to US$ 6257.0 million in 2008. Trade balance also increased US$ 320.1 million to US$4286.5 million during the same period of time. As a result this sector contributes nearly 5% of India's total manufactured exports. India's share in world pharmaceutical export also improved from 0.9% in 1992 to 1.4% in the year 2008.

The pharmaceutical industry is severely technological and capital intensive and India is one of the very few developing countries that has comparative advantages in the industry. However despite the impressive growth of this sector and low costs production there are several concerns which needs to be addressed. Like accessibility and affordability of medicines by the common man, instituting standards of quality, strengthening the fragmented regulatory system, sustaining growth of generic etc.

The IPI responded to economic reforms in many different ways. Firms like Cipla, Zydus and Lupin etc improved their manufacturing efficiency and established large production facilities. While firms like Sun pharma, Torrent and Wockhardt etc re-structured and shifted their technology focus, product basket and market focus. Special emphasis was given to marketing and distribution networks by almost all leading firms during this time. Besides,
domestic leaders substantially increased their in-house R&D investment and implemented new approaches of drug/product development.

Furthermore, moving the value chain of R&D in year 2000 process development accounted 65%, NDDS 30% and NCEs 5%, whereas in 2005 it was 35%, 35% and 30% respectively.

The presence of foreign firms boosts the competitive environment in the pharmaceutical sector and spillover effects are generated through the elimination of insufficient firms and faster adoption of technology. It will be further increased in near future due to TRIPs implementation. Besides the MNCs invest a lot in training and positive externalities in the form of human capital development seem to be generated. Further, the MNCs are highly aware of quality standards for products and production processes which seem to have positive impact to the domestic industry to improve their products quality, continually in the future due to new patent law and enhanced investment climate. Currently, domestic firms have invested more in R&D than they did in pre-reform period and this competition in terms of R&D can stimulate further competition and growth in the industry.

Therefore the impact of FDI on IPI manifolds. With the new WTO patent regime the foreign players have found greater security in operating in the India. Due to the spillover effects of a competitive environment the domestic players have substantially increased their productivity, profitability and are on stronger footing with the incoming pharmaceutical firms. In fact, domestic players have started challenging MNCs in their own country.

The development of Indian talent and adoption of managerial techniques by domestic firms has made India a preferred destination of FDI. This is a positive spiral of the spillover effects of FDI. Due to earlier FDI infusions the human capital has been upgraded which in turn is attracting more FDI. Hence the spillover effects are evident in increasing the productivity of the IPI and have resulted in India gaining respect as a global player.

FDI in the IPI is mainly market-seeking. India's advantage for MNCs in the pharmaceutical industry is first of all the large domestic market, with a more than one billion population. Wide disease pattern, relatively cheap manpower and skilled labour are other factors that attract foreign investors. English is widely spoken language, which makes communication easy for foreign
investors. The production of pharmaceuticals is also relatively cheap in India as there is a strong production base in the country. It is easy to get good quality bulk drugs, which is attractive for foreign firms. Because of India’s focus on reverse engineering and the development of production processes, it has high technical competence in production in the pharmaceutical industry, which makes this industry attractive to foreign investors. The industry is also highly competitive among suppliers which give the MNCs a good bargaining position. India has many advantages for foreign investors and consequently the country has future potential to become an attractive destination for outsourcing in drugs discovery and clinical trials.

From the analysis of FDI in pharmaceutical industry it has been observed that the share of pharmaceutical industry’s FDI in total FDI inflows was 2.05% on an average during the period under consideration.

In order to promote FDI and maximize further spillover effects, policies should be investor friendly, with a clear developing strategy. The policies in India should encourage domestic firms to invest more in R&D and technology upgradation and human resources by providing suitable fiscal and financial incentives.

SMEs (Small and Medium Enterprises) contribute 42% of total pharmaceutical production and 62% of total employment. Government should ensure that the SSI grows at a healthy rate as it is employment intensive sector. Lack of awareness in the area of patenting of technology, GMP, GCP and GLP is an issue with SMEs. Government with the help of BDMA and IDMA can conduct awareness camps for SMEs. This will not only help these units to match the expectations of developed market but also help in retaining or bringing back our talent abroad as specialists in this area. Further, schemes to promote compliance of schedule M, improvement in quality by adopting international regulatory standards and technology upgradation with special focus on the SSIs.

Currently, corporate players in this sector including the MNCs whose costs are prohibitively high are looking at the pharmaceutical SMEs in India to outsource their production and research programmes. This has opened up a big opportunity for SMEs pharmaceutical. But they face one major impediment in grabbing this opportunity. Their research facilities do not match with the
western standards, although their manufacturing capabilities are excellent. Indian SMEs are finding it difficult to keep up with the pace of R&D in technologically advanced countries. The prime reason for the Indian SMEs lagging behind the developed countries is the severe shortage of fund they are facing. To overcome this problem, the Indian SMEs pharmaceutical can adopt the CRAMS practice. This time-tested business is practiced elsewhere in the world and can provide a highly effective financial boost to SMEs in India.

Since R&D in pharmaceutical is a highly risky venture, there is dire need to give incentive through tax concession on a permanent basis. It is suggested that the tax holidays should be at least 20-25 years because the development of any molecule takes at least 15-20 years.

The level of FDI in an industry is an important factor for possible spillover effects. When the level of FDI is relatively low in an industry it can lead in insignificant result. This is also the case in the IPI. This should be enhanced by providing more investor friendly policies.

Government at various levels should take active part in disseminating knowledge about the IPRs and the possible strategies that can be adopted by the industry. Lesson should be drawn from the Chinese experience where systematic efforts were taken to educate the bureaucrats, policy makers and the industry about the WTO and product patent in pharmaceutical industry. India will have to strengthen the patent examination process and speed up the processing procedures. Besides, a strong institutional and judicial framework will have to be set up for monitoring the price, to prevent infringement and trade dress cases of patent products respectively.

Emphasize also has to be given to the macroeconomic policies, such as the monetary policy, fiscal policy, foreign trade policy, the exchange rate policy and FDI policy so that they are in tune with the requirement of the growth of the pharmaceutical sector.

With India emerging as a major hub for Contract Research particularly clinical trials it is important to ensure good clinical practices in the country.

Animal testing is essential in drug discovery. Effective solution is needed for undertaking NCEs based discovery research to solve the difficulties encountered in conducting toxicity studies in bigger animals. The approval
process for animal imports, animal experiment protocol, needs to be streamlined and expedited.

Spurious drugs are a sensitive issue affecting not only the level of FDI but also health of the people as well as the prestige of the country's pharmaceutical trade interest. Steps should be taken by the government to counter threat of spurious drugs.

Price regulation is another major impediment for FDI inflows in Indian pharmaceutical sector. Focus on price monitoring rather price control is required. Apart from this resolution of data exclusivity law will help in increasing confidence among foreign companies.

It may be noted that reforms are required at regulatory/policy level too. Presently both central and state governments regulate pharmaceutical sector. While states regulatory authorities are responsible for regulating manufacturing, sales and distribution of drugs, the central regulation approves new drugs, clinical trials, control imports of drugs and also coordinates among the states bodies. Hence, drug regulation and price control should be with the same agency so that an integrated regulatory system exists in the economy.

Strengthening the regulatory system is also required in the context of new patent regime. There is a need to simplify procedures and shorten the timeline for various approvals. Strengthening of regulatory system with respect to data protection is also crucial. These measures will help in attracting more FDI particularly in R&D in India.

Technological cooperation with the MNCs stimulates growth in the manufacturing and R&D spaces of the domestic industry. Recently, with the fear that if MNCs take over Indian companies it will lead to an oligopolistic market situation and increasing drug price (However various studies have shown that drug prices almost stable currently). Due to this now FDI upto 100% in Greenfield projects will remain under automatic route but in the Brownfield projects it will need to go via government approval route. The same approval which is presently done the FIPB but in future it will be by the CCI. Movement to restrict FDI in this way will a retrogressive step in the financial reform process in the country, adversely affecting FDI not only in the pharmaceutical sector but possibly far beyond it. Hence, the Government should rethink in this matter.
6.3 Direction for Further Research:

The present study has dealt with the role of the FDI in pharmaceutical industry for the period from 1991-2008. Performance appraisal of pharmaceutical industry has been done in terms of examining the trends in production, investment, export and employment in pharmaceutical sector. The same parameters have been taken to assess the role of FDI viz-a-viz production, investment, export and employment. However, the study has not taken the segment-wise analysis of FDI inflows in pharmaceutical industry i.e. bulk drugs and formulations. Since India is the third largest bulk drug manufacturer there is scope for the research in future in these segments.