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Impact of Foreign Direct Investment on Automobile Sector: An Empirical Study with Reference to India

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ABSTRACT

Indian economy seems to bear a down trend in its major economic factors such as poor unemployment, low capital formulation, poor standard of living, undergrowth in GDP, increased Trade deficit, low infrastructural developments etc., In view of the economic crisis and the shortage of capital, the Government of India realized the importance of foreign capital for the development of the country. The developing countries started opening their economy, out of the compulsion, to achieve faster rate of economic growth and development. Even a communist country like China adopted liberalization policy as a strategy for accelerated economic growth during 1979. India also joined the race by 1991. FDI inflows to automobile sector have started pouring in since 2000. Owing to the initiatives taken by the Government of India (GOI), there is a tremendous change in the inflow of money in the Foreign Direct Investment sector.

This study makes use of the published data from different sources, which in research referred to as the secondary data. The growth of FDI in the industry is forecasted for future period from 2010 to 2015. The FDI inflow into automobile industry is increasing in position due to huge demand in this sector.

Keywords: FDI, Economy, Automobile industry, GDP, Crisis factor.

1. INTRODUCTION

Foreign Capital to India

Many countries in the world realized that foreign capital is a stimulant of economic development at the beginning of the twentieth century. To support the statement, the experience of many countries owned

their growth and development to the volume of foreign capital inflow into their economies. In the later quarter of the twentieth century, the need for foreign capital is realized among the various countries of the world. Developing countries especially developed multi-pronged strategies to attract foreign capital into the country. One such strategy is the adoption of liberalization policy. Almost all the developing countries started opening their economy, out of the compulsion, to achieve faster rate of economic growth and development. Even a communist country like China, adopted liberalization policy as a strategy for accelerated economic growth during 1979. India also joined the race by 1991, when the government announced the policy of liberalization.

Pre-liberalization era made remarkable achievements in the Indian Economy. Agricultural sector has shown a tremendous growth under the four different revolutions namely, green, yellow, white and blue. On the other side, the industrial sector has grown annually by 6 to 7%, which in turn contributed to the growth of the Indian economy. The economic crisis in 1990 leads to great setback in the Indian economy. The recession leads to a down trend in the per capita income, employment, capital formation, trade balance, standard of living, infrastructural development etc. In view of the economic crisis and the shortage of capital, the Government of India realized the importance of foreign capital for the development of the country. From the period 1991 onwards there has been continuous effort taken by the Government in attracting foreign capital. This period is called as the post liberalization period. The initiatives taken by the Government include increasing the investment cap, providing concessions in taxes and offering tax holidays.

The external capital flows from India is classified into three main phases. The first comprises of the period starting from the Independence and spanning upto the early 1980s, India's dependence on external flows was mainly limited to multilateral and bilateral concessional finance.

Still, in the context of a broadening current account deficit during the 1980s, India complement this traditional external source of financing with recourse to external commercial loans, including short-term borrowings and deposits from non-resident Indians (NRIs).

Accordingly, the proportion of short-term debt in India's total external debt had amplified drastically by the late 1980s. The third phase was marked by the balance of payments crisis of 1991 and the initiation of the reform process. The external sector had an objective of correcting the deficiencies that had led to payment imbalances in 1991. The crisis was due to the inappropriate recognition of exchange rate regime, a rise in short term debt in relation to official reserves and unsustainable current account deficit.

Reform measures queued up to overcome the losses. As a remedial measure, during 1991 the Government of India liberalized the economy by opening the doors to get it in tune with the global economy. In the last two decades, many countries around the world have seen substantial growth in their economies in the form of Foreign Direct Investment (FDI). The share of net FDI in world GDP has grown in five times, which has created the need to analyze the causes and consequences of FDI and economic growth. Hence, this research study is undertaken to analyze the nature, existence, causes and consequences of relationship between FDI and economic growth in India.

Foreign Direct vs Portfolio Investment Flows to India

Foreign direct investment is the main source of capital investment for a developed nation. Foreign Direct Investment is a kind of international investment in which a resident business in one economy obtains

a lasting interest in an enterprise resident in another. The long term interest involves the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the investor on the management of the enterprise. Foreign Portfolio Investment includes a variety of instruments which are traded in organized and other financial markets: bonds, equities and money market instruments. The IMF includes derivatives or secondary instruments, such as options, in the category of FPI. The post Asian financial crisis period showed that FDI flows are the more resilient as compared with portfolio investment and bank lending. Portfolio investments are more unpredictable than FDI. Portfolio investments are mediated through financial markets and are highly sensitive to changes in the investment environment, which may come from factors internal or external to the recipient economies. FPI aims at short term benefits while FDI imparts long lasting interest in the country. It offers easier escape routes compared to FDI, where an investor can easily withdraw from a foreign portfolio when targets are realized or when there's an unexpected occurrence affecting the economic standing of that country which may adversely affect foreign investments. Foreign Direct Investment is preferred to other forms of external finance because it is the source of non-debt creating, non-volatile and their returns depending on the performance of these projects financed by the investors. FDI also facilitates international trade and transfer of knowledge, skills and technology. It is also described as a source of economic development, modernization and employment generation, whereby the overall benefit triggers technology spillovers, assists human capital formation, contributes to international trade integration and particularly exports. It helps to create a more competitive business environment, enhances enterprise development, increases total factor productivity and improves efficiency of resource use.

Relationship Between Foreign Direct and Portfolio Investments

Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) are the two major sources of foreign investment entering into India. This paper also, analyzes about the relationship between these two sources of investment whether it is complementary or supplementary in nature. Before analyzing the relationships, it is worthy to understand the concept and flow of investment into the country.

Foreign Direct Investment is the category of international investment in which a resident entity in one economy obtains a lasting interest in an enterprise resident in another. A lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the investor on the management of the enterprise. Foreign Portfolio Investment includes a variety of instruments which are traded (or tradeable) in organized and other financial markets: bonds, equities and money market instruments. The IMF even includes derivatives or secondary instruments, such as options, in the category of FPI.

India is the second largest populous country in the world. The population and the wages are considered to be a parameter in deciding a nation's wealth. As a developing country, India's economy is characterized by wage rates that are significantly lower than those in most developed countries. These two traits combine to make India a natural destination for FDI and FPI. Among the various types of financial inflows, the FDI and FPI have played an important role in the process of development of many economies. In addition, many developing countries consider FDI and FPI as an important element in their development strategy among the various forms of foreign assistance.

The FDI and FPI flows are usually favored over the other form of external finance, because they are non-debt creating, nonvolatile in nature and their returns depend upon the projects financed by the investor. The FDI and FPI would also facilitate international trade and transfer of knowledge, skills and technology. The Government of India (GOI) has also recognized the key role of the FDI and FPI in its process of economic development, not only as an addition to its own domestic capital but also as an important source of technology and other global trade practices. In order to attract the required amount of FDI and FPI, it has brought about a number of changes in its economic policies. It has put in its practice of a liberal and more transparent FDI and FPI policy with a view to attract more FDI and FPI inflows into its economy. These changes have heralded the liberalization era of the FDI and FPI policy regime into India and have brought about a structural breakthrough in the volume of FDI and FPI inflows in the economy.

FDI is described as a source of economic development, modernization and employment generation, whereby the overall benefit triggers technology spillovers, assists human capital formation, contributes to international trade integration and particularly exports which helps to create a more competitive business environment, enhances enterprise development, increases total factor productivity and improves efficiency of resource use. While portfolio investment is mediated through financial markets and is highly sensitive to changes in the investment environment, which may come from factors internal or external to the recipient economies. FPI usually aims at short term benefits and typical target countries for this type of foreign investment, given its transient nature, are developing countries. It offers easier escape routes compared to FDI, where an investor can easily withdraw from a foreign portfolio either when targets have been realized or when there's an unexpected occurrence affecting the economic standing of that country which may adversely affect foreign investments.

Trends in Automobile Industry

FDI inflows to automobile industry in India have been increasing at a fast pace and this sector attracted 3.60 percent of total FDI during 2006-10. Hundred percent FDI is allowed in this sector and India is becoming a prime destination for many international players in the automobile industry who wish to set up their business in India. The industry consists of automobile industry with 1.36 percent of foreign investment, auto ancillary parts of 1.85 percent, passenger cars 0.61 percent and other transport as 0.46 percent during the period from 2000 to 2009.

The basic advantages that India can provide to automobile producers are advanced technology, cost effectiveness, efficient manpower and above all the growing demand. Japan with an investment of US $ 1114.97 million i.e., 24.52 percent of the total investment is the top investing country in this sector. The other investing countries are USA with 18.31 percent and Italy 13.11 percent respectively. In India Mumbai, New Delhi and Ahmedabad received major chunks of investment i.e. 34.18, 30.09 and 10.55 percent. Major Indian companies which received highest percentage of FDI inflows in automobile industry are Vee Commercials Vehicles Ltd., Escorts Yamaha Motor Ltd, Suzuki Motorcycles Pvt. Ltd., Yamaha Motors India Pvt. Ltd, Punjab Tractors Ltd., Yamaha Motor Escorts Ltd, Eicher Motors Ltd. and Fiat India Automobile P. Ltd.

Statement of the Problem

During 1990, India was facing with a serious economic and Balance of Payment crisis. It was the time when Government felt the need for foreign capital to supplement domestic capital to overcome the crisis and

to stimulate economic growth. In 1991, the Government liberalized the economy by opening the doors to foreign investors so as to bring India in tune with the global economy. India was then attracted to foreign investors; as a result there was a massive increase of foreign investment flow into the country. The foreign investment inclusive of both FDI and FPI which was US$133 million in 1991-92 increased to US $ 69,557 million in 2009-10. The contribution of FDI inflow into the country was US $ 129 million in 1991-92 to US $ 37,182 in 2009-10. This massive increase in flow of FDI into the country raises an important question in the mind of researchers to analyze the causes and implications or effects of Foreign Direct Investment on the economic growth and development of the country. The aim of the study is to analyse the trend of FDI into petroleum and gas industry in India.

Review of literature

Vazquez-Rozas, Emiia, Vadlamannati and Krishna Chaitanaya (2009) presented a detailed study about the historical perspective of the trends in FDI inflows in India. A detailed description analysis was presented to assess the current trends patterns of FDI inflows by sector, origin of country and regional comparison. In addition, FDI potential and performance indices for India was developed and compared with other leading developing economies for the time period from 1970 to 2005. The results reveal that even if FDI in India has increased significantly during the post transformation period, its position is very weak, signifying that there is still a lot of potential for India to compete with its peer group.

Mohd. Shamim Ansari and Mukesh Ranga (2010) emphasized on Foreign Direct Investment (FDI) as an important driver of growth. FDI is the prime source of non-debt financial resources for economic development. FDI can support local development by boosting export competitiveness, employment generation and strengthening skills, transfer-diffusion-generation of technology and enhanced financial resources for development. According to the Global Competitive Index (2007-08) report published by World Economic Forum (WEF), India has been ranked at 48 out of 131 countries whereas China (34th rank), Taiwan and Singapore (14th rank) and Thailand (28th rank) are in a better position than India. India is attracting a low level of FDI largely due to poor business environment and the entry policy prevailing in the country. Even though the investment climate in India has become much friendlier today than previous decades, a lot of work is to be done if India wants to emerge as one of the major export oriented manufacturing hub. In order to overcome this situation, policy makers need to ensure transparency and consistency in policy making along with comprehensive long term development strategy.

Subash Sasidharan and Vinish Kathuria (2011) studied the relationship between FDI and R&D of the domestic firms in the post-liberalization rule. The study used unbalanced panel data for 1,843 Indian manufacturing firms operating during the period 1994–2005 and corrects for the self-selection problem with Heckman-two step model. The analysis done with full sample does not reveal a clear picture of the impact of FDI on the innovation strategies of domestic firms. When the same study conducted with different sub samples, interesting results emerged. R&D remains to be complements when sample is divided on the bases of equity ownership. FDI inflow induces foreign-owned firms in high tech industries and firms in minority ownership to invest in R&D.

Vlado Vivoda (2011) assessed the conditions that influence foreign direct investment in the mineral industries of China and India. The research made a comparative study between India and China. The paper developed an evaluative framework which allows for comparative analysis and then a comparative

analysis is made to evaluate the performance of foreign investment area that govern mineral industries in China and India. Its findings show that the overall conditions for foreign mining investment in China and India are not favourable. The considerable policy, regulatory and other changes in both countries need to be made if more investment is to flow.

Sharma Reetu and Khurana Nikita (2013) in their study on the sector-wise distribution of FDI inflow to know about which has concerned with the chief share, used a data from 1991-92 to2011-2012 (post-liberalization period). This paper also discusses the various problems about the foreign direct investment and suggests the some recommendations for the same. In this study found that, Indian economy is mostly based on agriculture. So, there is a most important scope of agriculture services. Therefore, the foreign direct investment in this sector should been couraged.

Abhishek Vijaykumar Vyas(2015) this study focused on the trends of FDI Flow in India during 2000-01 to 2014-15 (up to June, 2015). The study also highlights country wise approvals of FDI inflows to India and the FDI inflows in different sector for the period April 2000 to June 2015. The study based on Secondary data which have been collected through reports of the Ministry of Commerce and Industry, Department of Industrial Promotion and Policy, Government of India, Reserve Bank of India, and World Investment Report. The study concludes that Mauritius emerged as the most dominant source of FDI contributing. It is because the India has Double Taxation Avoidance Agreement (DTAA) with Mauritius and most of the foreign countries like to invest in service sector.

Objectives of The Study

- To analyze the forecasting of FDI Inflows into automobile sector
- To identify the trends and status of FDI Inflows into automobile sector
- To find the relationship between FDI and FPI

2. METHODOLOGY

Research Design

The research design followed in this research is said to be Descriptive Research Design. The study describes the characteristics and specific forecasts about Foreign Direct Investments in India during a particular period.

Period of Study

The purpose of the study is to study the magnitude, causes and effects of Foreign Direct Investment inflow into the country. Hence FDI inflows into India is analyzed for 30 years from 1980-81 to 2009-10. For better analysis, the period is classified into two phases: the first phase is the period of Pre-Liberalization i.e., period from 1980-81 to 1990-91 and the second phase is the Post Liberalization period from 1991-92 to 2009-10. The rest of the analysis, that is, the country wise source, sectoral analysis, relationship between FDI and FPI, factors which determine FDI flow and its impact on the economy are analyzed for a period of 19 years from 1991-92 to 2009-10.

The period is selected for various reasons for this study. It was during July 1991 that India opened its doors to private sector and to foreign investors by liberalizing and globalizing the economy. Secondly, the experiences of South-East Asian countries by liberalizing their economies in 1980s became the stars of economic growth and development in early 1990s. Thirdly, India's experience with its first generation economic reforms and the country's economic growth performance was considered as place of safety for FDI which led to second generation of economic reforms in India in first decade of this century. Fourthly, there is a considerable change in the approach of both the developing and developed countries towards FDI. They both believe FDI as the most suitable form of external finance. Fifthly, there is an rise in competition for FDI inflows particularly among the developing nations.

Sources of Data

The research relies on secondary data which is a published sources of data collected from various sources. The data was obtained from; Handbook of Statistics on the Indian economy, RBI, various issues, UNCTAD, WIR series, various issues, Economic Survey, Government of India, various issues, World Development Indicators, World Bank, Department of Industrial Policy and Promotion (DIPP), Secretariat of Industrial Assistance (SIA), Central Statistical Organization (CSO).

Tools Used

The tools used in this study are ARIMA modeling and correlation analysis. Box and Jenkins (1978) come with a new generation of forecasting tools, is known as the ARIMA methodology This model analyzing the probabilistic, or stochastic, properties of economic time series on their own rather than constructing single or simultaneous equation models. ARIMA models allow each variable to be explained by its own past or lagged, values and stochastic error terms. Correlation analysis used to find the relationship between two variables.

3. RESULTS AND DISCUSSION

ARIMA Model

FDI Inflows in Automobile industry is estimated using ARIMA model and the inflows into this industry is anticipated for a period of 6 years from 2010 to 2015. The results of the model are summarized in Table 1 which is shown below.

Table 1
ARIMA model showing FDI Inflows to Automobile Industry

Model	*Coefficient*	*Std. Error of Coefficient*	*t value*	*p value*
AR1	–0.141	0.644	0.219	0.846
Year	4195.103	10696.291	0.392	0.732
Constant	–8379946.087	21467461.878	0.390	0.733

Log Likelihood: 58.020
Alkaline's Information Criterion (AIC): 122.041
Schwarz's Bayesian Criterion (SBC): 120.869

From the above result, as the *p*-value of the constant and first lag is very less indicates that the fit is good. The Alkaline's Information Criterion (AIC) and Schwarz's Bayesian Criterion (SBC) both measure goodness of fit and account for model complexity. The ARIMA model equation is fitted as,

$$(\Delta FDI)_t = -8379946.087 - 0.141\ (\Delta FDI)_{t-1}\ \varepsilon_t$$

where, $(\Delta FDI)_t$ = first order difference in FDI = $(FDI)_t - (FDI)_{t-1}$

Table 2
Actual and estimated values of FDI Inflows to Automobile Industry

Year	*Actual Values*	*Estimated Values*	*95% Confidence Limit*		*% growth of FDI over previous year*
			Lower CL	*Upper CL*	
2000-05	64,919.39	31,236.93	–159,665.02	222,138.88	–
2006	11,773.53	30,661.26	–148,598.22	209,920.74	–
2007	14,895.00	42,978.12	–126,398.43	212,354.66	27
2008	48,094.92	47,325.29	–128,071.36	222,721.94	223
2009	64,701.68	47,412.16	–148,446.66	243,270.98	35
2010		49,849.28	–177,039.43	276,737.99	–23
2011		56,742.27	–190,284.77	303,769.30	14
2012		60,555.24	–224,163.72	345,274.21	7
2013		64,804.47	–257,992.77	387,601.72	7
2014		68,991.91	–293,996.03	431,979.85	6
2015		73,188.10	–331,196.34	477,572.54	6

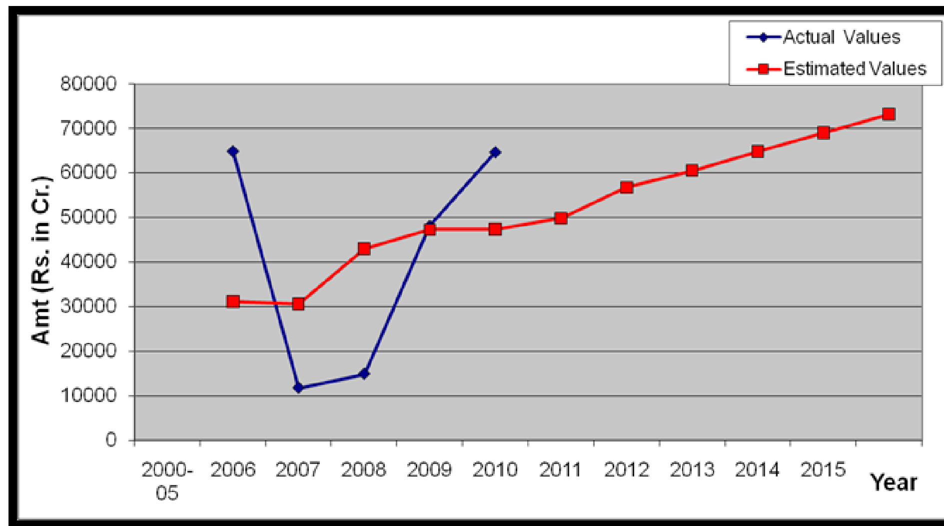

Chart 1: Trends in Automobile Industry

The automobile industry has become one of the most attractive industry to foreign investors from 2006. During the period from 2006 to 2009 the industry received a huge amount as foreign investment. The year 2008 was a remarkable period in the history of automobile industry as a major share of investment was made by foreign investors. The projection of FDI inflows in this industry shows a marginal fall in the year 2010 but during later years, that is, from 2011 to 2015 an upward trend of FDI flow in this industry was observed.

Foreign Direct and Portfolio Investment in The Country From 1990-91 To 2009-10.

Table 3
Statement showing FDI & FPI Inflow to India
(US $ Million)

Year	*Sources of Investments*		*Total Investment*
	Foreign Direct Investment (FDI)	*Foreign Portfolio Investment (FPI)*	
1990-91	97	6	103
1991-92	129	4	133
1992-93	315	244	559
1993-94	586	3567	4153
1994-95	1314	3824	5138
1995-96	2144	2748	4892
1996-97	2821	3312	6133
1997-98	3557	1828	5385
1998-99	2462	-61	2401
1999-00	2155	3026	5181
2000-01	4029	2760	6789
2001-02	6130	2021	8151
2002-03	5035	979	6014
2003-04	4322	11377	15699
2004-05	6051	9315	15366
2005-06	8961	12492	21453
2006-07	22826	7003	29829
2007-08	34835	27271	62106
2008-09	35180	-13855	21325
2009-10	37182	32375	69557

Source: Complied from GOI, Economic Survey & RBI Bulletin of various years.

Note:

1. Data for 2007-08 and 2008-09 are momentary.
2. Data from 1995-96 onwards contain acquisition of shares of Indian companies by non- residents under Section 6 of FEMA, 1999. Data on such attainment are included as part of FDI since January 1996.
3. Data on FDI have been revised since 2000-01 with expanded coverage to approach international best practices. Data from 2000-01onwards are not comparable with FDI data for earlier years.
4. Negative (-) sign points to outflow.
5. Direct Investment data for 2006-07 comprise swap of shares of 3.1 billion.

Relation between FDI and FPI

In order to analyze the complementary or supplementary nature of relationship between the two sources of foreign investment Pearsons Coefficient of Correlation is used. The result of the Correlation is tabulated in Table 4.

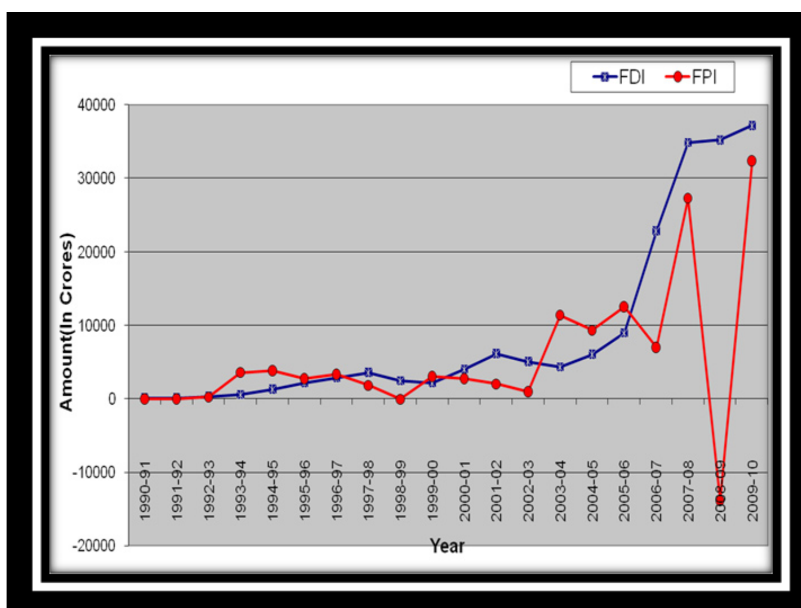

Chart 2: Foreign Direct and Portfolio Investment Flows

Table 4
Pearson Correlation Result of FDI & FPI in India

Variable	*FDI*	*FPI*
FDI	1	0.472 *
FPI	0.472 *	1

* Correlation is significant at the 0.05 level (2-tailed).
Sample Size (N) = 20

It is observed from the above correlation result that FDI is perfectly and positively correlated to FPI as the coefficient value is 0.472. This significance value implies that the probability of the correlation is high, hence it could be inferred that the relationship between Foreign Direct and Portfolio Investment is complementary and not supplementary in nature.

4. CONCLUSION

Post Liberalization, Foreign Direct Investment considered to be the major sorce a major role in the growth of the country. The findings of the study reveal that there has been increase in sect oral growth of the economy, increase in the level of Personal Disposable Income, Exports, Imports and rise in the level of employment. A rise in all the above factors leads to an overall growth of the country creating a positive impact on the economy. Despite the flow of FDI into the country during the post liberalization period, it is found that the global share of FDI in India is very less when it is compared to other developing countries. Further, it was found that the realization of approved FDI into actual is very less over the years. Therefore, to overcome this situation, the Government of India should take serious steps to simplify the procedures and remove red-tapism so that actual FDI can be raised. Government should also revise the sect oral cap and bring more segments under the routine route. Further, agreement of Double Taxation treaties should be signed with other countries in order to increase bilateral trade between the countries. Therefore, the

inflow of FDI into automobile sector is gradually increasing due to several reasons including consumer demand, lower crude oil prices , inflation, political, interest rate etc., hence, it is important to adopt innovative policies and good corporate governance practices on par with international standards, by the Government of India, to attract more and sustaining the foreign capital in automobile sector to enhance its performance and also to contribute more in to Indian economy.

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