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FOREIGN DIRECT INVESTMENT IN INDIA: SECTOR WISE INVESTMENT ANALYSIS

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ABSTRACT

In the current world economic scenario, the foreign direct investment (FDI) plays a very important role to develop the economy of a country. Sometimes domestically available capital is inadequate for the purpose of overall development of the country. Foreign capital fills the gap between domestic investment and investment needed to sustain the growth of the economy. In this situation, India needs FDI to develop the Indian economy. The FDI is one of the most important development tools to build up self-reliance in various investment sectors of the economy. In this backdrop, One Way ANOVA and Tukey's HSD test are used to find the significant difference among sector wise FDI investment and to make the group of individual sectorial investment into homogenous subsets based on significant divergence of FDI investment among them. The study shows that significant difference is present among different sectors and foreign investors mainly prefer to invest in the manufacturing and communication service sector in India.

Keywords: *FDI, Foreign Investment, ANOVA, Tukey's HSD Test*.

Introduction

In the world economy, India is the fastest growing economy and needs adequate foreign capital for the purpose of overall development of the economy. In this regard, the regulatory measures for foreign direct investment (FDI) are investor-friendly to accelerate the pace of foreign investment in Indian investment sectors. The FDI is the important tool to develop the economic growth in India. This fund is invested to meet the demand of the capital investment in various sectors in India. The Indian Government adopted the favourable policy of FDI to flow this fund in India. In this situation, sector wise investment of the FDI is analysed to find the significant difference among the sector wise investments and make the homogenous subsets of sector wise investments as per the volume of the investment of the FDI indifferent sectors using one way analysis of variance (ANOVA) and Tukey's Honest Significant Difference (HSD) test.

Review of Literatures

Some available literature on FDI is mentioned to find the objectives of this study below:

Azahar & Marimuthu (2012) in the article, An Overview of Foreign Direct Investment in India, discussed the theoretical aspect of FDI and India is the most favoured destination of FDI investment for its natural resources and foreign policy. Joo and Dhar (2018) studied in the article, Role of Sector Wise FDI Inflow on Growth of India - an Empirical Analysis, the contribution of FDI on the growth of India and its effect of each sector wise growth. This is measured by Regression Analysis. Duggal (2017) discussed in article, Foreign Direct Investment in India, trend and pattern of foreign direct investment in India. Aggregate inflow of FDI in India during 2005-2010 and 2010-2017 was also discussed. Singh (2019) stated the FDI inflows in India during 2000-2001 to 2018-2019, the growth of FDI had been discussed in the article, Foreign Direct Investment (FDI) Inflows in India. Anitha (2012) mentioned the FDI inflows in

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India in her writing and influence of factors to inflow of FDI as well as problems to inflow of FDI in India also mentioned in the article, Foreign Direct Investment and Economic Growth in India. Archana, Nayak & Basu (2014) stated in their article, Impact of FDI in India: State-Wise Analysis in an Econometric Framework, labour productivity in different states, its impact on labour productivity across all the states of India and domestic employment in each state.

Objectives of the Study

The present article is studied to understand the following objectives:

- To find the significant difference among sector wise investments;
- To make the homogeneous subsets of the sector wise investments of the FDI.

Research Methodology

<table>
<tr><td colspan="3">The study is exploratory in nature and the secondary data used in this work is collected from the books, journal articles and RBI Annual Reports.</td></tr>
<tr><td>Sector Wise Investment in India</td><td>• Communication Services (CMS)
• Manufacturing (MAN)
• Retail & Wholesale Trade (RWT)
• Financial Services (FNS)
• Computer Services (CMPS)
• Business services (BUS)
• Electricity and other energy Generation, Distribution & Transmission (EEGDT)</td><td>• Construction (CONS)
• Transport (TRANS)
• Miscellaneous Services (MLS)
• Restaurants and Hotels (RH)
• Real Estate Activities (REA)
• Education, Research & Development (ERD)
• Mining (MIN)
• Trading (TRA)
• Others (OTR)</td></tr>
<tr><td>Objectives</td><td colspan="2">Statistical Tools</td></tr>
<tr><td>To analysis significant difference among sector wise investment and homogeneous subsets of sector wise investment of the FDI for the period 2010-2011 to 2016-2017.</td><td colspan="2">• One Way ANOVA
• Tukey’s HSD test</td></tr>
</table>

Result Analysis

The sector wise investments of the FDI over the period 2010-2011 to 2016-2017 are considered to analyse the significant difference among different sectors on the basis of following data:

Table 1: Sector-Wise FDI Inflows

(US$ million)

Year	CMS	MAN	RWT	FNS	CMPS	BUS	EEGDT	CONS	TRNS	MLS	RH	REA	ERD	MIN	TRA	OTR
2010-11	4,793	1,599	1,353	444	1,338	1,228	569	509	843	218	391	592	344	156	56	506
2011-12	9,337	2,634	2,603	340	1,395	1,458	1,590	801	736	870	567	204	410	6	103	419
2012-13	92	6,528	551	2760	247	643	1653	1319	213	552	3129	197	150	69	140	43
2013-14	1,256	6,381	1,139	1,026	934	521	1,284	1,276	311	941	361	201	107	24	0	293
2014-15	1,075	9,613	2,551	3,075	2,154	680	1,284	1,640	482	586	686	202	131	129	228	232
2015-16	2,638	8,439	3,998	3,547	4,319	3,031	1,364	4,141	1,363	1,022	889	112	394	596	0	215
2016-17	5,876	11,972	2,771	3,732	1,937	2,684	1,722	1,564	891	1,816	430	105	205	141	0	470
Total	25,067	47,166	14,966	14924	12,324	10,245	9,466	11,250	4,839	6,005	6,453	1,613	1,741	1,121	527	2,178

Source: RBI Annual Report

Findings

During the study period in the above Table, foreign investors invested more in manufacturing and lowest in trading sector. In this section, one way ANOVA is applied on the data of Table-1 to justify the following hypothesis:

H_0: *Sector wise investments are not significantly different*

H_1: *Sector wise investments are significantly different*

Here, firstly assumptions of one way ANOVA is verified to justify the above hypothesis to conduct the test of one way ANOVA and then result of one way ANOVA is analysed here:

Table 2: Assumptions of One Way ANOVA

Sl. No.	Assumptions	Statistical Test	Condition to fulfil	Fulfilled
1	Independent variable consists of three or more categorical independent groups	-	Three or More Categorical Independent Groups	Fulfilled
2	Samples are independently drawn	-	Independently Drawn	Fulfilled
3	Populations are normally distributed	Shapiro−Wilk test	P−Value > 0.05	Fulfilled
4	Variances are homogeneous	Levene's test	P−Value >0.05	Fulfilled

Source: Computed by the Author

Table 3: Result of One Way ANOVA

Source of Variation	Sum of Squares	Mean Square	F-ratio	Probability-value
Between Groups	297417516.63	19827834.44	9.39	0.00
Within Groups	202746939.14	2111947.28	-	-
Total	500164455.78	-	-	-

Source: Computed by the Author

Findings

In the Table-3, null hypothesis is rejected and significant difference among sixteen different sectors is present. The above result of One Way ANOVA allows finding the mean value for homogeneous subsets under the Tuky's HSD test.

In this division, the assumptions of One Way ANOVA is also applicable in Tuky's HSD test, the result of the Tuky's HSD test is shown here.

Table 4: Result of Tuky's HSD Test (Mean Value in US$ million)

Sector	Group-1	Group-1 & Group-2		Group-2	Group-3
TRA	75.29	-	-	-	-
MIN	160.14	-	-	-	-
REA	230.43	-	-	-	-
ERD	248.71	-	-	-	-
OTR	311.14	-	-	-	-
TRANS	691.29	-	-	-	-
MLS	857.86	857.86	857.86	-	-
RH	921.86	921.86	921.86	-	-
EEGDT	1352.29	1352.29	1352.29	-	-
BUS	1463.57	1463.57	1463.57	-	-
CONS	1607.14	1607.14	1607.14	-	-
CMPS	1760.57	1760.57	1760.57	-	-
FNS	2132.00	2132.00	2132.00	-	-
RWT	2138.00	2138.00	2138.00	-	-
CMPS	-	-	-	3581.00	-
MAN	-	-	-	-	6738.00

Source: Computed by the Author

Findings

Result in the Table-4 shows that foreign investor mainly prefers to invest in the manufacturing sector for the cheaper wages and changing business environment in India and they do not prefer the trading sector for the different rules and regulations to inflow the FDI and business environment of trading sector in India.

Conclusion

In this study, this paper finds the significant difference is present among the sector wise investments of FDI. The different sustainable growths of different sectors are also the causes of different amount invested in India. The manufacturing (MAN) and communication services (CMS) sector are preferable to the foreign investment; the trading (TRA) and real estate activities (REA) are not attractive for the foreign investment. This is happened for different growths in different sectors in different investment policies in India.

References

~ Anita, R. (2012). Foreign Direct Investment and Economic Growth in India. *International Journal of Marketing, Financial Service & Management Research*, 1-18.

~ Archana, V., Nayak, N. C. & Basu, P. (2014). Impact of FDI in India: State-Wise Analysis in an Econometric Framework. *Global Journal of Human-Social Science: Economics,* 1-12.

~ Azahar, A. & Marimuthu, K. N. (2012). An Overview of Foreign Direct Investment in India. *International Journal of Multidisciplinary Management Studies*, 1-12

~ Duggal, A. (2017). Foreign Direct Investment in India. *Journal of Internet Banking and Commerce*, 1-10.

~ Joo, B. A., Dhar, F. A. (2018). Role of Sector Wise FDI Inflow on Growth of India-an Empirical Analysis. *International Journal of New Technology and Research (IJNTR),* 1-6.

~ Singh, S. (2019). Foreign Direct Investment (FDI) Inflows in India. *Journal of General Management Research,* 1-41.

Database

~ RBI, Annual Report, 2018

~ RBI, Annual Report, 2017

~ RBI, Annual Report, 2014.

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