"IMPACT OF FOREIGN DIRECT INVESTMENT ON REAL ESTATE"

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CERTIFICATE

This is to certify that the work which is being presented in the project title " **IMPACT OF FOREIGN DIRECT INVESTMENT ON REAL ESTATE**" in partial fulfillment of the requirements for the award of the degree of Master of technology and submitted in Civil Engineering Department, Jaypee University of Information Technology, Waknaghat is an authentic record of work carried out by Anil Sharma during a period from August 2015 to May 2016 under the supervision of Mr. LAV SINGH Assistant Professor, Civil Engineering Department, Jaypee University of Information Technology, Waknaghat.

The above statement made is correct to the best of my knowledge.

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ABSTRACT

The Foreign Direct Investment means cross border investment made by a resident in one economy in an enterprise in another economy, with the objective of establishing a lasting interest in the investee economy. FDI is also described as "investment into the business of a country by a company in another country". Mostly the investment is into production by either buying a company in the target country or by expanding operations of an existing business in that country". Such investments can take place for many reasons, including to take advantage of cheaper wages, special investment privileges (e.g. tax exemptions) offered by the country. There is clearly an intense global competition for FDI. India has emerged as the second most attractive destination for FDI after China and ahead of the US, Russia and Brazil. Foreign investment can also result in the transfer of soft skills through training and job creation, the availability of more advanced technology for the domestic market and access to research and development resources.UNCTAD (United Nations Conference on Trade and Development) has a database which gives the complete FDI flow around the world.

The next type of data to be obtained is the projections and estimates of the future FDI investment over the years. These projections can be applied with the thumb rules obtained from the analysis of past data.The report published by CBRI and CREDAI titled "Assessing the economic impact of India's Real estate sector", says The real estate sector has a share of approximately 6.3% in the GDP; will employ almost 8.9million people in the year 2016. I decided to compare the land rates of different cities of India before and after the improvising of FDI norms. I have selected six cities across India – Mumbai, Bangalore, Delhi, Kolkata, Chennai and Pune for analysis.The data analysis included hypotheses testing on the impact of changes. We framed hypotheses on whether there has been change in the land rates by the virtue of FDI, and then tested them with parametric test. Our conclusion was based on what were the outcomes of hypotheses testing (t-TEST). To enhance our proof of truthfulness of study we supported the hypotheses by further testing them by non-parametric test (Wilcoxon test).

Key words: *FDI,BPO,REAL ESTATE,DIPP,CRESIL,T-TEST,WILCOXON SIGNED RANK TEST,PULSE.*

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Chapter 1

INTRODUCTION

1.1. BACKGROUND

The Foreign Direct Investment means cross border investment made by a resident in one economy in an enterprise in another economy, with the objective of establishing a lasting interest in the investee economy. FDI is also described as "investment into the business of a country by a company in another country". Mostly the investment is into production by either buying a company in the target country or by expanding operations of an existing business in that country". Such investments can take place for many reasons, including to take advantage of cheaper wages, special investment privileges (e.g. tax exemptions) offered by the country. There is clearly an intense global competition for FDI. India has emerged as the second most attractive destination for FDI after China and ahead of the US, Russia and Brazil. In view of these facts, the present thesis recognizes the importance of FDI to real estate, infrastructure and allied sectors.

There is need to develop the basis from which one could realize the potential of the FDI to the mentioned sectors and its extent of effect. A proper demand forecast is needed to analyze the real effect of the FDI on the mentioned sectors. Businesses which are dependent on real estate for their survival will be taken under scanner to provide us with well judged criteria on how the demand for space/real estate can be expected and how the infrastructure will be actually shaped in the future.

The last decade has seen a steep rise in the economic growth and global GDP due to the influx of capital and increased tax revenues with the contribution of FDI in the host countries. Host countries on the advent of FDI try to channel these investments into new infrastructure and other projects to boost development. Greater competition from new companies can lead to productivity gains and greater efficiency in the host country. It has been suggested that the application of a foreign entity's policies to a domestic subsidiary may improve corporate governance standards.

Foreign investment can also result in the transfer of soft skills through training and job creation, the availability of more advanced technology for the domestic market and access to research and development resources. The local population may be able to benefit from the employment opportunities created by new businesses.FDI provides a win – win situation to the host and the home countries. Both countries are directly interested in inviting FDI, because they benefit a lot from such type of investment. The home countries want to take the advantage of the vast markets opened by industrial growth. Moreover, the paucity of all types of resources viz. financial, capital, entrepreneurship, technological know- how, skills and practices, access to markets- abroad- in their economic development, developing nations accepted FDI as a sole visible panacea for all their scarcities. Further, the integration of global financial markets paves ways for explosive growth of FDI around the globe.

Developing countries like India need substantial foreign inflows to achieve the required investment to accelerate economic growth and development. It can act as a catalyst for domestic industrial development. The huge population base, strong economic growth and growing affluence have made India one of the lucrative markets for foreign architectural, engineering and construction (AEC) firms. India has a population of 1.241 billion as on 2011, in contrast; the US has a population of 311.6 million in 2011. The huge Indian population base translates into a large domestic market for homes and infrastructure.

The Government of India has allowed 100 per cent foreign direct investment in the construction industry through the automatic route and some conditions restricting FDI to a minimum area of 100 acres and 2,000 dwelling units are relaxed to 25 acres and 50,000 square metres for construction development projects. The Eleventh Five Year Plan envisages a total investment of US$ 514 billion in infrastructure sector for bridging the infrastructure deficit and for sustaining a growth momentum of 9 percent per annum.

The Government of India has taken several initiatives accelerate investments in the infrastructure sector including sector specific policies, providing incentives and tax holidays, permission of 100% FDI in the infrastructure sector, special provision of Viability Gap Funding (VGF) and PPP approach. Indian infrastructure policy on roads permits duty free import of high capacity and modern road construction equipment, complete tax holiday for any 10 consecutive years out of 20 years.

Table1: Share of top investing countries FDI Equity Inflows

Rank	Country	(2009-10) APRIL-MARCH	(2010-11) APRIL-MARCH	(2011-12) For APRIL 2011	CUMMULATIVE INFLOW APRIL 00-11	% to total inflow In terms of US$
1	MAURITIUS	49633 (10376)	31855 (6987)	4332 (976)	247092 (55203)	42 %
2	SINGAPORE	11295 (2379)	7730 (1705)	5214 (1175)	58090 (13070)	10 %
3	U.S.A	9230 (1943)	5353 (1170)	356 (800	42898 (9529)	7 %
4	U.K	3094 (657)	3434 (755)	19 (4)	29451 (6643)	5 %
5	NETHERLAND	4283 (899)	5501 (1213)	172 (39)	25799 (5739)	4 %
6	JAPAN	5670 (1183)	7063 (1562)	1043 (235)	25001 (5511)	4 %
7	CYPRUS	7728 (1627)	4171 (913)	743 (170)	22702 (4982)	4 %
8	GERMANY	2980 (626)	908 (200)	231 (52)	13607 (3051)	2 %
9	FRANCE	1437 (303)	3349 (734)	977 (220)	11244 (2484)	2 %
10	U.A.E	3017 (629)	1569 (341)	91 (21)	8683 (1910)	1 %
TOTAL FDI INFLOW		123120 (25834)	88520 (19427)	13846 (3121)	594569 (132837)	_

Amount in Rs. crores(US$ in million)

Source: *Government of India (GOI) (2009). FDI Statistics, Ministry of Commerce & Industry, Department of Industrial Policy and Promotion.*

UNCTAD (United Nations Conference on Trade and Development) has a database which gives the complete FDI flow around the world. It also gives the divisional statistics for individual countries. The country level data enables us to access data on Indian statistics. The advantage of this source is that, it has the base year of 1996 which gives us the idea of how the FDI flow took place before the effects of 1991 liberalization was clearly shown.

Table2:Total FDI Inflow in INDIA:

Ranks	**Sectors**	**2009-10 (April-march)**	**2010-11 (April-march)**	**2011-12 (April-march)**	**Cumm. Inflows (April 00-April 11)**	**% to total inflow (in terms of US$)**
1	SERVICE SECTOR	20776 (4,353)	15,539 (3403)	2922 (658)	123,706 (27668)	21 %
2	Computer Software and Hardware	4351 (919)	3570 (784)	425 (96)	48135 (10821)	8 %
3	TELECOMMUNICATION	12338 (2554)	7546 (1665)	205 (46)	48313 (10611)	8 %
4	Housing and Real Estate	13586 (2844)	5149 (1127)	167 (38)	43288 (9655)	7 %
5	Construction activity	13516 (2862)	5077 (1125)	1381 (311)	42160 (9491)	7 %
6	Automobile industry	5754 (1208)	6008 (1331)	1182 (266)	28037 (6199)	5 %

7	POWER	6908 (1437)	5709 (1252)	1136 (256)	27848 (6156)	5%
8	Metallurgical Industry	1935 (407)	5055 (1105)	229 (52)	18724 (4286)	3 %
9	Petroleum and Natural Gas	1328 (272)	2621 (576)	28 (6)	13763 (3159)	2%
10	CHEMICALS	1707 (362)	1810 (398)	152 (34)	13234 (2927)	2 %

Amount in Rs. crores(US$ in million)

Source: *Government of India (GOI) (2009). FDI Statistics, Ministry of Commerce & Industry, Department of Industrial Policy and Promotion.*

Every business model that needs real estate will not entirely invest on the real estate. The business will have a set of investments to be done in various forms. But real estate contains one of the major chunks. Here the data needed is how much percentage of investment in a business is expected to flow into real estate. Though this type of data is directly not available, it can be worked out by summing up various researches and applying thumb rules varying according to the sector.

The next type of data to be obtained is the projections and estimates of the future FDI investment over the years. These projections can be applied with the thumb rules obtained from the analysis of past data. This kind of analysis gives us the fair idea of how much of FDI in various sectors can come into the real estate sector by means of business. The projections can be availed from reliable research groups such as KPMG, CRESIL.

The report published by CBRI and CREDAI titled "Assessing the economic impact of India's Real estate sector", says The real estate sector has a share of approximately 6.3% in the GDP; will employ almost 7.6 million people in the year 2013. There is an insight to what will be the trend in the future for real estate with almost all the sectors getting nod for the higher share of the

FDI. It also says that the government support measures should include addressing supply constraints such as inadequate land availability in most of our urban centres, complex acquisition process and restricted development control regulations hindering higher density developments. Other key measures include streamlining the approval process for construction, permitting new sources of real estate funding such as investment trusts, easing interest rates, promoting private sector participation in building mass housing schemes, renewal of our built environment by regular infrastructure up gradation and support to export promotion regimes such as the Special Economic Zones (SEZs).

Figure1: Foreign direct investment in construction development

Source: CBRI

1.2 FDI IN INDIA

India received maximum FDI from Mauritius ($8.17 billion), followed by Japan ($1.69 billion), Singapore ($1.82 billion), the Netherlands ($1.51 billion) and the UK ($1.04 billion). Expressing optimism, the official said liberalisation of the FDI policy in various sectors would help boost inflows in the coming months.

In November 2012, India attracted FDI worth $1.05 billion. The inflows had aggregated to $36.50 billion in 2011- 12 against $19.42 billion in 2010-11 and $25.83 billion in 2009-10.India would require around $1 trillion in the next five years to overhaul its infrastructure sector such as ports, airports and highways to boost growth. Decline in foreign investments could put pressure on the country's balance of payments and may also impact the value of rupee.

Total inflows in Housing and real estate FDI equity inflows: Rs 43,288 crores ($9,655 million), Construction (including roads & highways) FDI equity inflows: Rs 42,160 crores ($9,491 million).

1.3 INVESTMENT OPPORTUNITIES IN INDIA

1. **SEZs:** Special economic zones have already been giving their national contribution in terms of raising exports & employment; regional contribution in terms of income generation and promotion of ancillary industrial activities and sector wise contribution in terms of technology transfer and development of local entrepreneurship. It is expected that SEZs will further trigger a significant flow of foreign and domestic investment in India, in infrastructure and productive capacity, leading to the generation of additional economic activity and the creation of employment opportunities. Further, SEZs are expected to attract the migrating rural population and augment the demand for housing and other commercial real estate.

2. **Ports:** According to estimates by the Ministry of Shipping, cargo volumes in India are expected to breach the 2-billion tons mark by 2016–17; and 2.4 billion tons by 2019–20. A report on the Indian port sector (ICRA Rating feature, September 2011), released by consultancy firm ICRA, states that the prospects for cargo growth over the medium- to long-term remain positive based on the level of activities in the key end-user industries.
   Going forward, growth of traffic at Indian ports is expected to be driven mainly by higher volumes of coal (to meet requirements of the large number of current and proposed thermal power projects based on imported coal); containers (given the market under-penetration and potential for cost savings); crude oil and POL (large upcoming refinery capacity); fertilizers (strong domestic demand and low self-sufficiency); and steel (mega

projects proposed in the eastern part of the country). Most of the expected traffic growth in India is based on domestic demand drivers, which are expected to spur growth in various port-related logistics and service activities, although competitive pressures in these business lines would remain high.

For private players investing in the ports sector, another positive trend is the increasing adoption of the landlord/asset ownership model for major ports; this model allows the private sector a dominant role in capacity additions, and port services and operations.

3. **Roads:** India's road network of 3.34 million km is the second-largest in the world. Out of this, national highways account for 65,569 km, state highways for 130,000 km, and major district roads, rural and urban roads collectively account for 3.14 million km, as per statistics with the Ministry of Road Transport and Highways.

   National highways account for a mere 2% of the total road length, but carry 40% of the total road traffic. Between 2006 and 2009, the national highway network increased by 4,000 km and the state highway network increased by 170,000 km.

   Of the total length of the national highway network, about 27% is single-laned or intermediate-laned, 54% is two-laned and 19% is four-laned. The Ministry of Road Transport and Highways is planning to seek credit worth USD 2.96 billion from the World Bank for the conversion of single-laned, intermediate-laned and two-laned roads covering a total length of about 3,770 km. The project is scheduled for completion in 2014. The state highways and major district roads carry 40% of total road traffic and constitute 13% of India's total road length.

   The 11th Five-Year Plan (2007–2012) has projected an investment requirement of USD 8,613.95 million for the development of rural roads under the PradhanMantri Gram SadakYojana.

4. **Housing and Real Estate**: FDI received during January 2000- December 2010 were Rs.568, 246.20 crores (US$ 127.00 billion). Out of this, the amount of FDI inflows in the Housing & real estate Sector during January 2000 to December 2010 is Rs.45, 794.79 crores (US$ 10.28 billion) which is 8.09% of the total FDI inflows.

1.4 OBJECTIVE

- To analyze the pattern and direction of FDI flow in India by statistical hypothesis with t-test and Wilcoxon test.
- To establish a proper relation between the investment of various sectors in real estate and FDI.
- To find out the impact of FDI on infrastructure by analyzing the previous steps taken by the government to achieve the much needed infrastructure to attract foreign investors

1.5 SCOPE OF STUDY

The study will be undertaken with an aim to establish the projected amount of FDI inflow into the real estate for the coming years through asset building for other sectors such as single and multi-brand retail, hospitality, housing and allied sectors.

The amount of FDI flowing into the country will be directly proportional to the quality of the infrastructure of the country. When the inflow of the FDI increases, there is a huge chance that the prices of the office space, work space and storage space will become volatile. The pattern will affect directly to real estate business, hence arises the need to study the expected patterns of price variation due to new found investment avenue.

Secondarily, the problem the government facing is only 18 out of 54 earmarked cities fulfil the complete criteria for 100% FDI in multi-brand retail. This phenomenon has the potential to force the government to take up the infrastructure projects swiftly in other cities also. The second aim of the study will be to study the much needed and potential infrastructure step-ups due to the inflow of FDI. Infrastructure will be expected to expand on the basis of essentials such as warehouses and cold storages too.

Chapter 2

Literature Review

- ***Dilek O¨ zdemir (2002).The distribution of foreign direct investments in the service sector in Istanbul - Elsevier Science Ltd.***

  The FDI distribution in Turkey post neo-liberalization in 1980s. This paper is reviewed on the basis that the analysis was carried out in early 2000s; 20 years after the liberalization took place in Turkey. The same position we currently stand after the liberalization of economy in 1991. The trend is more similar when we observe that the FDI inflow increased considerably only after 1990 in Turkey, 10 years after the neo-liberal policies took place which is ironically same in case of India where the FDI inflow has increased considerably post 2000, which is also 10 years later of liberalization of economy.

  In the analysis, author takes into account service sectors such as financial and insurance companies, restaurants/hotels, real estate and professional services. All of the mentioned service sectors were given equal importance. Thus this paper gives us an insight on how one can analyze the situation in the present scenario and serves as an overview of the possible outcome from the FDI inflow.

- ***SjoerdBeugelsdijk, Roger Smeets, RemcoZwinkels (2008). The impact of horizontal and vertical FDI on host's country economic growth - International Business Review 17, 452–472***

  The main aim of this paper is to theoretically and empirically explore the relationship between HFDI and VFDI, and economic growth. The authors argue that the growth-enhancing effect of HFDI is about 50% larger than of VFDI in this set of developed countries Though this paper gives its best output for the developed nations, the effect of HFDI can be exclusively taken into account for our studies, as the MNEs investing in developing countries do not see VFDI as the best solution for their investments.

  Since the real estate industry can flourish only under a good economic growth, which can be enhanced by the HFDIs, as argued by the authors, this paper gives us a good view of the processes which govern the MNEs to invest in foreign countries.

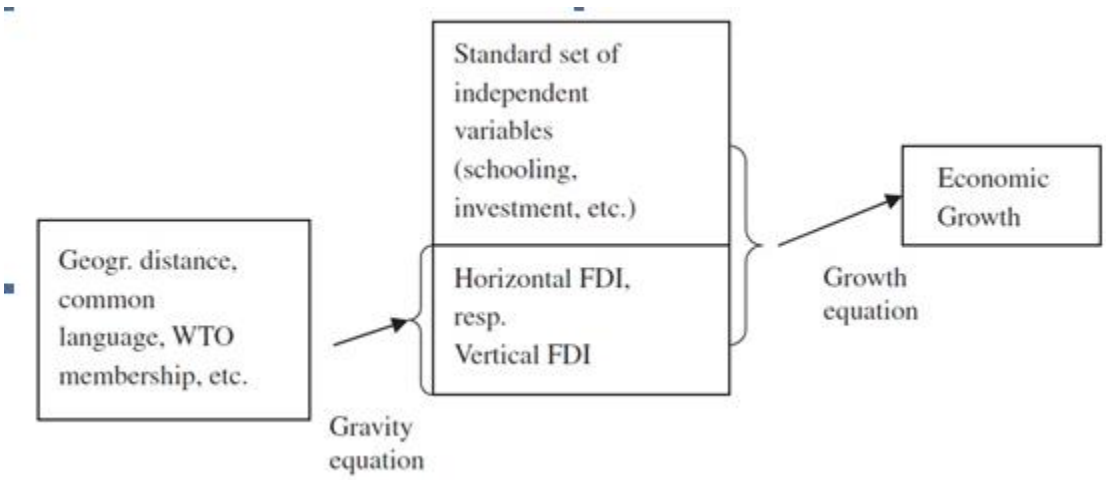

Fig2.Step up of FDI growth model

- ***Frank S.T. Hsiao and Mei-Chu W. Hsiao (2006). FDI, exports, and GDP in East and Southeast Asia—Panel data versus time-series causality analyses - Journal of Asian Economics 17, 1082–1106***

  In this paper deal only with eight Asian economies, which can be considered as Newly Industrializing Economies (NIEs). They observed that FDI generally goes to the key industries like electric and electronic and high-tech manufacturing sectors of these economies, and plays a crucial role in promoting technology transfer and exports in these sectors. Thus, FDI may have a strong influence on the growth of GDP in a country.

  The interest in the paper arises when they argue that the FDI has the direct effect on the key industrial areas, which take up huge chunk of real estate in the process of their installment, which in turn need robust infrastructure facilities. They found the bidirectional causality between GDP and exports. In addition, we have found FDI causes exports and GDP. This finding verifies that inward FDI is crucial and significantly benefits the growth of GDP through increased exports, for example, by opening the export-oriented industrial processing zones for inward FDI.

- ***DilekTemiz and AytacGokmen (2013). FDI inflow as an international business operation by MNCs and economic growth - International Business Review (In press)***

It says while many studies suggest that FDI has a positive impact on economy, some contradict them, but the authors argue that when the situation is regarded from a short-run point of view, FDI entry could influence a country's economy in various channels by supplying technology, capital, know-how, managerial skills, improvement in human resources, physical capital and provide resources to overcome liquidity constraints.

The expected outcome of FDI entry within the long-run is a bit more comprehensive such as investing in new production plants, increasing production rate, enlarging the volume of exportation, enhancing employment opportunities, providing more hard currency and improving GDP in the real sense. Later they conclude with the empirical analysis that Turkey has not been able to bank upon the FDI inflow, though the FDI inflow is considerably healthy.

- ***LaleBerkoz and SevkiyeSence Turk (2010).Intrametropolitan Determinants of Foreign Investment Firms in Istanbul - Journal of Urban Planning and Development 136, 234-242***

This paper is in special reference to Istanbul, where in 2003 about 89% of FDI of Turkey was located. This called for a huge change in the land use pattern where Istanbul metropolitan master plan did not specify the zones where priority would be given to foreign capital firms, foreign firms have been free to locate wherever they choose and that is why they have chosen locations that best meet their own requisites.

In this case, foreign firms have been freed from any intervention by municipal planning bodies and have themselves selected areas that they believe with best suit their needs. In order to contribute to urban redevelopment in the central areas, the Istanbul, Turkey metropolitan area master plan should allocate foreign investors special zones that have high level of accessibility to surrounding areas, expressways and airports

- ***CRISIL- Research report Indian retail sep12***

Due to an oversupply situation in the period since the first half of 2010, lease rentals have remained flat and most micro-markets across the 10 major cities in India due to high vacancy levels. Lease rentals have not breached the peak levels observed during the first half of 2008 in any of the micro-markets of 10 major cities.

The market, however, appears to have bottomed out with the lease rentals remaining largely stable since the beginning of 2011. The year FY12 also proved to be a difficult year for

organized retailers as the revenue growth of most players dipped sharply in account of weak demand, rising apparel prices and higher excise duty levels.

FICCI (Federation of Indian Chambers of Commerce and Industry) and PWC (PricewaterhouseCoopers)

This paper gives us the exact picture of interest of global giants in Indian retail sector as the report focuses on the reasons behind their strategic intentions of moving in slowly into the market. Though India has a huge potential to generate massive profits, this report exclusively shows why exactly global giants are working carefully that too mainly in only tier I cities.

The report says that the coexistence of the local kirana store and the organized players is a no-brainer in the current context of the Indian retail sector. There are no two ways to it. Organized players target cities and not the hinterlands. It is the kirana guys who take care of the daily household needs in those areas. In fact, these neighbourhood mom-and-pop stores continue to be the only point of sale for most FMCG players to rural areas of the country.

2.1. POLICIES AND REGULATION FOR FDI IN INDIA

2.1.1. CONSTRUCTION DEVELOPMENT

Townships, housing, built-up infrastructure and construction-development projects (which would include, but not be restricted to, housing, commercial premises, hotels, resorts, hospitals, educational institutions, recreational facilities, city and regional level infrastructure) - 100%

Investment will be subject to the following conditions:

1. Minimum area to be developed under each project would be as under:
   (i) In case of development of serviced housing plots, a minimum land area of 10 hectares.
   (ii) In case of construction-development projects, a minimum built-up area of 50,000 sq.mts.
   (iii) In case of a combination project, any one of the above two conditions would suffice.

2. Minimum capitalization of US$10 million for wholly owned subsidiaries and US$ 5 million for joint ventures with Indian partners. The funds would have to be brought in within six months of commencement of business of the Company.
3. Original investment cannot be repatriated before a period of three years from completion of minimum capitalization. Original investment means the entire amount brought in as FDI. The lock-in period of three years will be applied from the date of receipt of each instalment/tranche of FDI or from the date of completion of minimum capitalization, whichever is later. However, the investor may be permitted to exit earlier with prior approval of the Government through the FIPB.
4. At least 50% of each such project must be developed within a period of five years from the date of obtaining all statutory clearances. The investor/investee company would not be permitted to sell undeveloped plots. For the purpose of these guidelines, undeveloped plots will mean where roads, water supply, street lighting, drainage, sewerage, and other conveniences, as applicable under prescribed regulations, have not been made available. It will be necessary that the investor provides this infrastructure and obtains the completion certificate from the concerned local body/service agency before he would be allowed to dispose of serviced housing plots.
5. The project shall conform to the norms and standards, including land use requirements and provision of community amenities and common facilities, as laid down in the applicable building control regulations, bye-laws, rules, and other regulations of the State Government/Municipal/Local Body concerned.
6. The investor/investee company shall be responsible for obtaining all necessary approvals, including those of the building/layout plans, developing internal and peripheral areas and other infrastructure facilities, payment of development, external development and other charges and complying with all other requirements as prescribed under applicable rules/bye-laws/regulations of the State Government/ Municipal/Local Body concerned.
7. The State Government/ Municipal/ Local Body concerned, which approves the building / development plans, would monitor compliance of the above conditions by the developer.

2.1.2. FDI in retail

The recent approval by the Union Cabinet for allowing 51% foreign direct investment (FDI) in multi-brand retail in India and increasing the FDI limit in single brand retail in India to 100% (from the existing 51%) has come at a time when global retailers are facing headwinds in their home countries and thus scouting for new emerging markets, while domestic players, on the other hand, are burdened with piling debt. While this long awaited approval, which has come as a relief to many organized retailers, includes a set of riders for the foreign investors like minimum investment, deployment of funds invested, local sourcing, cities being opened for initial roll-out, etc.

Also, opposition from certain State Governments and political parties raises significant hurdles for effective implementation of the reforms. FDI in multi-brand retail has been opposed by several in the past citing fears of loss of employment and that traditional retail may be affected. However, adherents of the same indicate easy access to capital for domestic retailers, increased transfer of technology, enhanced supply chain efficiencies, increased employment opportunities and curtailment of inflation as the perceived benefits. While this long awaited move is not expected to have an immediate impact on the Indian retail sector, it is expected to reap benefits in the medium to long-term.

However, the move needs to be monitored in the wake of the current opposition by several political parties, which if persists, may pose a major roadblock in the entry of the foreign retailers in India. Besides restricting the number of cities these retailers can operate in, it could also lead to problems in creating supply chain efficiency.

For the domestic retailers, reforms at structural level would be required for partnering with foreign companies for the purpose of entering the states where FDI will be encouraged. At the same time, local retailers (kirana stores) are expected to remain a key element in the ecosystem in the foreseeable future, with their ability to offer door step service and convenient access. Hypermarkets require more than 60,000 sq. ft. and departmental stores require more than 20,000 sq. ft. of retail space.

2.2. Entry routes for investments in India

Under the Foreign Direct Investments (FDI) Scheme, investments can be made in shares, mandatorily and fully convertible debentures and mandatorily and fully convertible preference shares of an Indian company by non-residents through two routes:

1. **Automatic Route**: Under the Automatic Route, the foreign investor or the Indian company does not require any approval from the Reserve Bank or Government of India for the investment.
2. **Government Route**: Under the Government Route, the foreign investor or the Indian company should obtain prior approval of the Government of India(Foreign Investment Promotion Board (FIPB), Department of Economic Affairs (DEA), Ministry of Finance or Department of Industrial Policy & Promotion, as the case may be) for the investment.

2.3. Eligibility for investment in India.

1. A person resident outside India or an entity incorporated outside India can invest in India, subject to the FDI Policy of the Government of India. A person who is a citizen of Bangladesh or an entity incorporated in Bangladesh can invest in India under the FDI Scheme, with the prior approval of the FIPB. Further, a person who is a citizen of Pakistan or an entity incorporated in Pakistan, may, with the prior approval of the FIPB, can invest in an Indian company under FDI Scheme, subject to the prohibitions applicable to all foreign investors and the Indian company, receiving such foreign direct investment, should not be engaged in sectors / activities pertaining to defense, space and atomic energy.

2. NRIs, resident in Nepal and Bhutan as well as citizens of Nepal and Bhutan are permitted to invest in shares and convertible debentures of Indian companies under FDI Scheme on repatriation basis, subject to the condition that the amount of consideration for such investment shall be paid only by way of inward remittance in free foreign exchange through normal banking channels.

3. Overseas Corporate Bodies (OCBs) have been de-recognized as a class of investors in India with effect from September 16, 2003. Erstwhile OCBs which are incorporated outside India and are not under adverse notice of the Reserve Bank can make fresh investments under the FDI Scheme as incorporated non-resident entities, with the prior approval of the Government of India, if the investment is through the Government Route; and with the prior approval of the Reserve Bank, if the investment is through the Automatic Route. However, before making any fresh FDI under the FDI scheme, an erstwhile OCB should through their AD bank, take a onetime certification from RBI that it is not in the adverse list being maintained with the Reserve Bank of India.

2.4 Real estate stock, demand and absorption analysis:

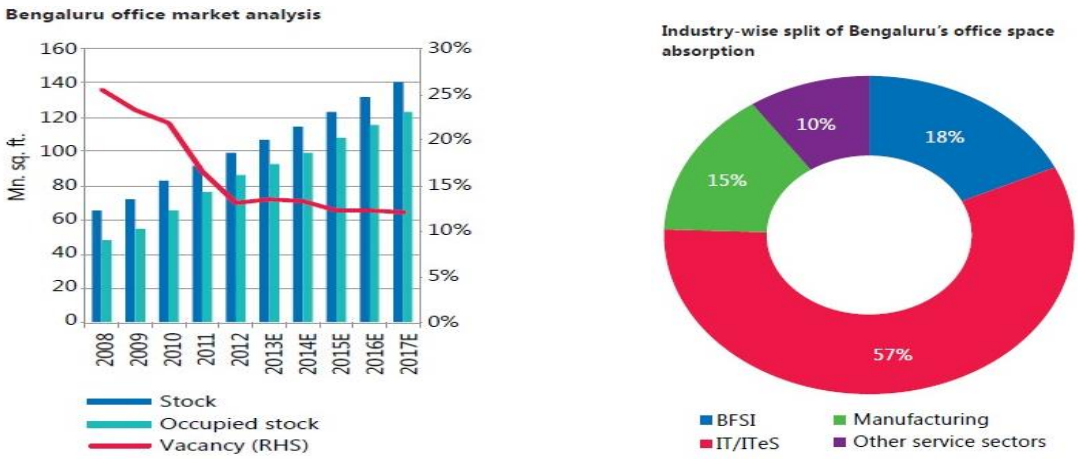

Figure 3. Bengaluru office space absorption

Source: Knight Frank

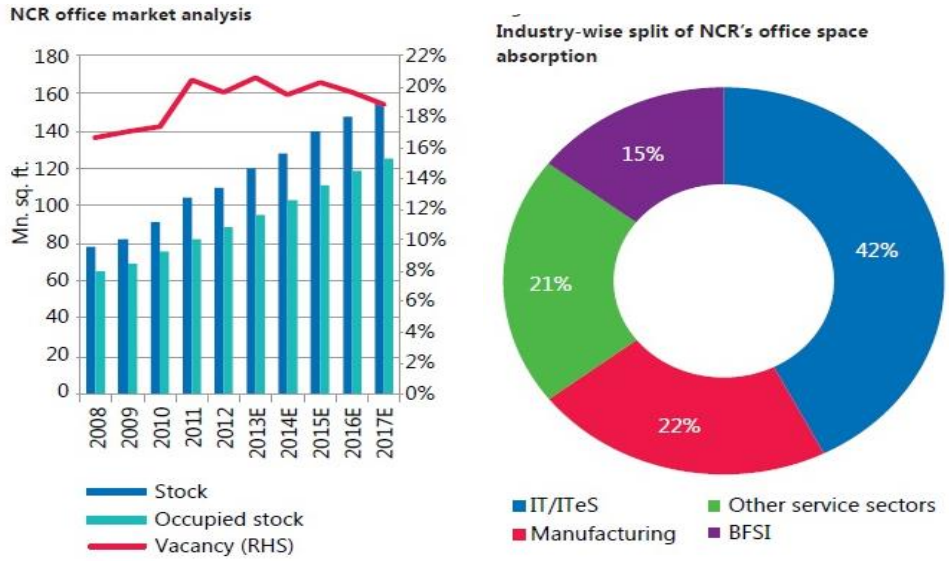

Figure 4. Delhi office space absorption

Source: Knight Frank .

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Figure 5. FdiIn India: Hotels And Tourism

Source:DIPP

These capital land values are slowly affecting the hospitality industries, with each year passing the trend of hotel and hospitality sector gaining importance hence attracting good weight of investments.

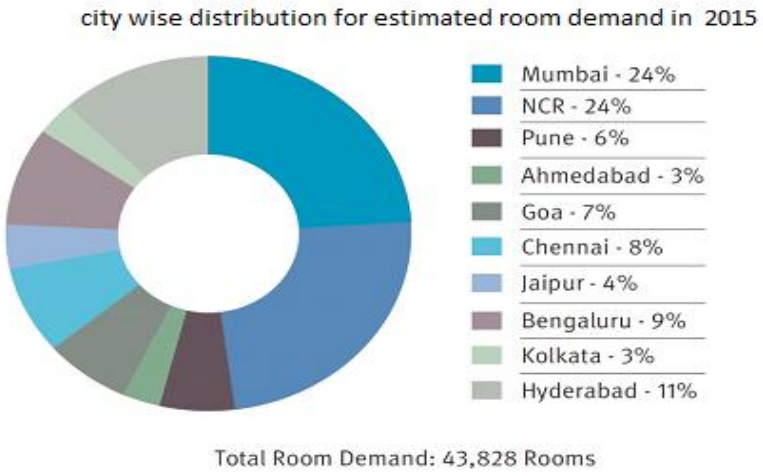


Figure6. City Wise Estimated Room Demand In 2015

Source: Knight Frank

Though it seems that the cities of tourist interest will need more number of room vacancies, it turns be a myth with most of the cities with business interest have attracted the most percentage of room. Thus FDI in this sector becomes vital as the global standards of hospitality have to be met with spreading of all conquering IT/ITES sector into tier – II cities.

Chapter 3

METHODOLOGY AND DATA

3.1 Methodology

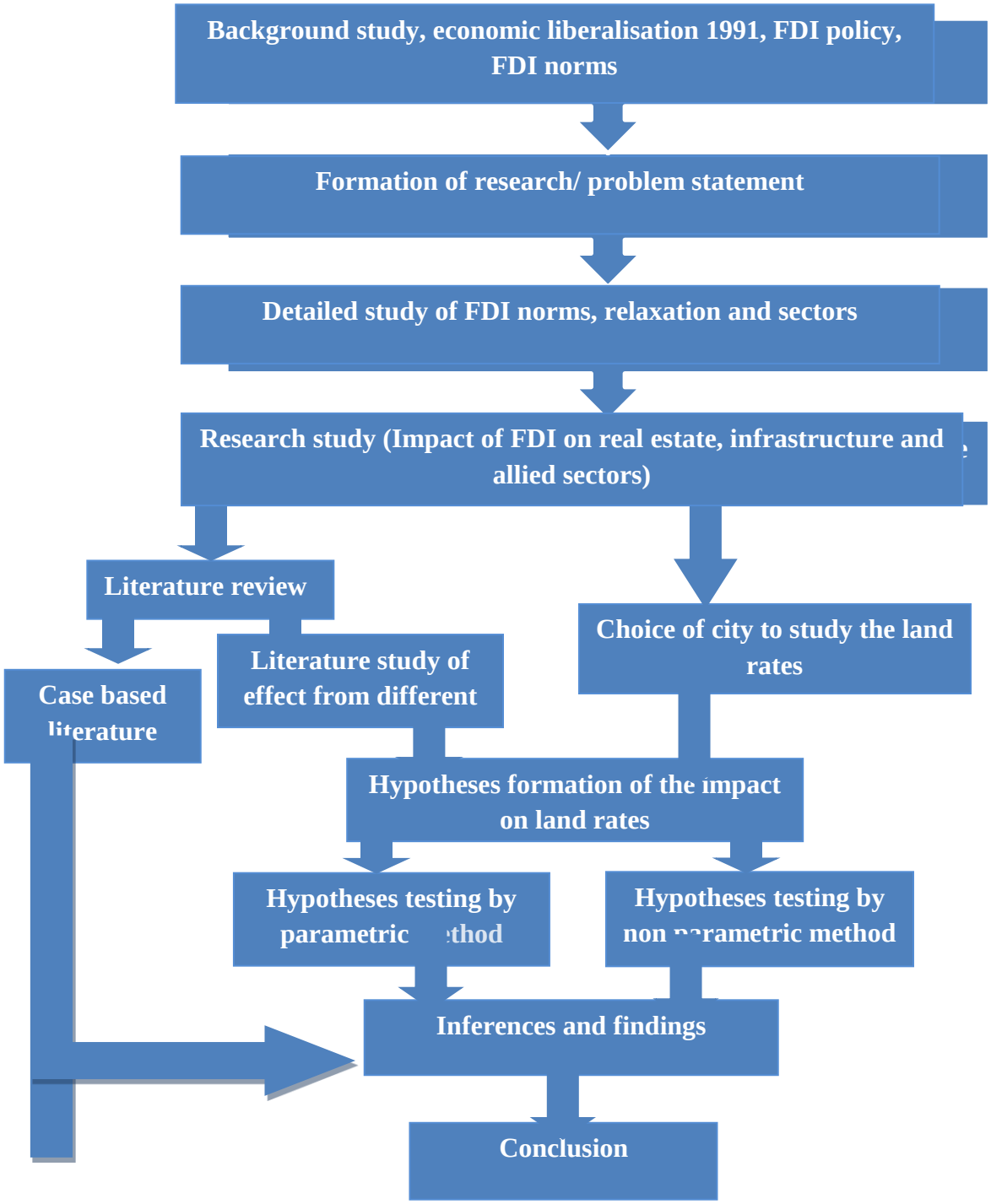


Figure 7. Flow chart of methodology

As real estate is quintessential for most of the businesses, there was a need to study and understand how the foreign investments have affected the pattern of construction industry holistically including real estate, infrastructure and allied sectors. The measurement of land value at any given time depends upon various factors such as the location, potential for development etc. We began our study with previous literature which widely expressed their thoughts on various sectors such as retail sector, service sector including bank, finance, information technology (IT) but the these papers concentrated on economy as a whole.

Further, reviewing case based papers on how the FDI has affected the land use patterns in Shanghai and Istanbul gave us insight on the potential changes that can appear in Indian context as the timeline of economic liberation and allowing of foreign direct investment of both the countries matched with that of India. We decided to compare the land rates of different cities of India before and after the improvising of FDI norms. We have selected six cities across India – Mumbai, Bangalore, Delhi, Kolkata, Chennai and Pune for analysis.

The base of the methodology will depend on working out how much amount of FDI indirectly flows into the real estate business. Once the thumb rule of percentage inflow of investment from various types of business is established, it can be applied to the future projections hence giving out the exact projection of the expected inflow of the FDI into the real estate sector.

We make use of hypothesis testing as a statistical tool for analysis, where we analyze by taking the land rates of different areas of different cities. The land rates are obtained from the reliable source as mentioned in respective sections. These land rates are taken for years 2014 and 2015, which indicate the land rates before and after the government liberalized the previously laid norms.

Firstly we conduct the comparative t-test for the data collected (average land rates i.e. both rental values and capital values).To ensure the test result, we conduct the Wilcoxon signed rank test (non-parametric). Crosschecking the results from both the tests will gives us the confidence to arrive at a proper conclusion about the pattern of the value of the land (both rental and capital)

Then benchmarking the changes in land rates against the current inflation and other minor factors will give us the confidence to conclude on what are the real changes in the land rate patterns in office space, commercial space and retail space.

The study also includes the insight of type of infrastructure developments done in the cities which are supportive and eligible to incubate the FDI in multi-brand retailing. This type of study will provide us with various shortcomings of other cities earmarked for FDI in multi-brand retailing but have not got adequate infrastructure to inculcate the same.

It is expected that the inflow of FDI will have a major boost for real estate sector as Indian government has liberalized the previous set of rules by allowing 100% FDI in multi-brand retailing. This fact will come in handy for real estate sector. The scenario in the eligible cities may look bullish as the investors are more than ready to invest in the country.

3.2 DATA AND RESEARCH METHODS:

The availability of accurate data is essential for deriving reliable results and making accurate decisions (suggestions, in this case). As the truism "garbage in, garbage out" (GIGO) indicates, policy decisions based on the results of poor data may prove to be disastrous. Thus, we have decided to take up the data from the reliable sources, none better thanMinistry of Commerce & Industry and Department of Industrial Policy and Promotion.

Since our research is completely based on secondary data, For the land rates in different areas of different cities we have made use of "Pulse", a monthly Real Estate Monitor published by real estate giant Jones Lang LaSalle which provides us with the land rates of office space and retail space in key precincts of the cities. The data is obtained for the month of October for both the years 2014 and 2015.

We have selected six different cities (sample size) spread across the country, among those Chennai and Bangalore are located in southern part of India whereas Pune and Mumbai give us idea on the status in western part, Delhi being national capital provides us with the trend in northern region and Kolkata completing the puzzle with eastern territory. Thus our study gives us wide spread knowledge of trends covering all the regions of the country.

For the inflow of FDI in different sectors, we have obtained the data published by Ministry of Commerce & Industry, Department of Industrial Policy and Promotion, which give us the total insight on share of top investing countries FDI Equity Inflows and total FDI inflows. The base year taken in the database was 2000. Further, it gives us the complete division of FDI and its

flow into various sectors. These sectors include service sector, telecommunications, housing and real estate, automobile, power and so on.

3.3 Period of study

The reference period is restricted from 2000 to 2015. To have an empirical idea about the status of FDI in India trend analysis will be conducted. For this purpose parameter such as FDI equity inflows country-wise, sector-wise, region-wise and foreign technology approval and transfer from different country to different sector will have to been taken into consideration.

3.4 Methods used:

A) T-test

The *t*-statistic was introduced in 1908 by William Sealy Gosset, a chemist working for the Guinness brewery in Dublin, Ireland . A *t*-test is any statistical hypothesis test in which the test statistic follows a Student's *t*-distribution if the null hypothesis is supported. It can be used to determine if two sets of data are significantly different from each other, and is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. A test of the null hypothesis that the difference between two responses measured on the same statistical unit has a mean value of zero..

It's actually easier to compute than the independent samples t-test, because all you do is calculate difference scores for each pair, compute an estimated standard error from the difference scores, and calculate the test statistic as the mean difference score divided by the standard error. The degrees of freedom for this test is the number of pairs minus one.Probability theory comes into play in computing the null sampling distribution of the chosen statistic based on the model assumptions.

The structural component of a statistical model defines the means of groups, while the error component describes the random pattern of deviation from those means**.**

- H_0: $m_{treated} \leq m_{untreated}$
- H_1: $m_{treated} > m_{untreated}$

The null covers the possibilities that either nothing happened, or the opposite of what I expected happened. The level of significance is often standardized to be 0.05, i.e. 5% in many cases or 0.01, i.e. 1%.which in turn means 95% or 99% of Confidence Interval. The critical value of t-

statistics for the particular level of significance and degree of freedom can be observed from the t-table.

In the two-treatment-group case, the usual null hypothesis is that the two rental rates for office spaceare equal, usually written as $H_0 : \mu 1 = \mu 2$, where the symbol H0, read "H zero" or "H naught" indicates the null hypothesis. Note that the null hypothesis is usually interpretable as "nothing interesting is going on," and that is why the term null is used. In the two-treatment-group case, the usual alternative hypothesis is that the two rental rates for office space≠ are unequal, written as $H1 : \mu 1 \neq \mu 2$ or $HA : \mu 1 \neq \mu 2$ where H1 or HA are interchangeable symbols for the alternative hypothesis.Classical statistical inference focuses on controlling the chance that we reject the null hypothesis incorrectly when the underlying truth is that the null hypothesis is correct.

We call the erroneous conclusion that the null hypothesis is incorrect when it is actually correct a Type 1 error. Type 2 errors which happen when you incorrectly retain the null hypothesis, withType 2 errors, something interesting is going on in nature, but you miss it. Type 2 error, which is the error we make when we retain the null hypothesis when a particular alternative is true

Assumptions:

The t tests assume that scores are normally distributed, with homogeneous variances, and are independent of each other (except, of course, for correlations within subjects in the repeated measures design). The most important assumption is independence. If scores are correlated because of spatial, temporal, organizational, or other relationships between subjects, the t-test will not give you an accurate read on mean differences.

Table 3: t-critical value

t-Critical points for upper tail aplha and df degrees of freedom					
Lower Tail Negative of Upper tail			Upper Tail P(X>x)=alpha		
df\alpha %	10.0%	5.0%	2.5%	1.0%	0.5%
5	1.476	2.015	2.571	3.365	4.032
6	1.440	1.943	2.447	3.143	3.707
7	1.415	1.895	2.365	2.998	3.499
8	1.397	1.860	2.306	2.896	3.355
9	1.383	1.833	2.262	2.821	3.250
10	1.372	1.812	2.228	2.764	3.169
11	1.363	1.796	2.201	2.718	3.106
12	1.356	1.782	2.179	2.681	3.055
13	1.350	1.771	2.160	2.650	3.012
14	1.345	1.761	2.145	2.624	2.977
15	1.341	1.753	2.131	2.602	2.947
16	1.337	1.746	2.120	2.583	2.921
17	1.333	1.740	2.110	2.567	2.898
18	1.330	1.734	2.101	2.552	2.878
19	1.328	1.729	2.093	2.539	2.861
20	1.325	1.725	2.086	2.528	2.845

B) Wilcoxon signed rank test

The Wilcoxon signed-rank test is a non-parametric statistical hypothesis test used when comparing two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ (i.e. it is a paired difference test). It can be used as an alternative to the paired Student's t-test, t-test for matched pairs, or the t-test for dependent samples when the population cannot be assumed to be normally distributed.

Assumptions:

The Wilcoxon signed Rank procedure assumes that the sample we have is randomly taken from a population, with a symmetric frequency distribution. The symmetric assumption does not assume normality, simply that there seems to be roughly the same number of values above and below the median.

We have used SPSS software to test the hypotheses formed, this essentially is being conducted to validate the result obtained by us from t-test.

CHAPTER 4

DATA ANALYSIS AND HYPOTHESES TESTING

4.1 Analysis for office space

4.1.1Calculation and tests for office space on rent

Table 4. Sample calculation for average office space rent of BPO's in different cities

	OCTOBER '14		OCTOBER '15	
	Minimum	Maximum	Minimum	Maximum
CBD	48	55	80	130
Old Airport Road	60	65	60	75
Outer Ring Road (Eastern)	46	52	48	55
Old Madras Road	30	34	45	60
Electronic City	26	28	26	38
Average	42	46.8	51.8	71.6

Source: Pulse real estate monitor

The test conducted for the minimum rates suggest that the rents are for BPOs who generally won't invest in lands because of their nature of business.

Because of the information obtained is from paired samples, we will make the confidence interval for the paired difference mean μ_d of the population using the paired difference mean $\bar{d}$ of the sample. Let d be the difference in the rental rates of the city for office space. Then, d is obtained by subtracting the rates of October 2014 from October 2015.

BEFORE	AFTER	DIFFERENCE (d)	d^2	Percentage increase (%)
48	80	32	1024	40
60	60	0	0	0
46	48	2	4	4.16
30	45	15	225	33.33
26	26	0	0	0
		$\sum d = 49$	$\sum d^2 =$ 1253	Avg. = 15.5

Similarly calculating the same for each cities taken into consideration which are – Bangalore, Chennai, Delhi, Hyderabad, Kolkata, Mumbai and Pune we can deduce the following table

Table 5.Minimum rental rates for office space of BPO's

	OCTOBER '14	OCTOBER '15	Percentage Increase (%)
BANGALORE	42.00	51.80	18.9
CHENNAI	42.50	41.50	-2.35
DELHI	98.50	100.33	1.82
HYDERABAD	34.67	35.33	1.87
KOLKATA	42.00	46.65	9.96
MUMBAI	110.83	116.67	5
PUNE	46.67	49.83	6.34
			Average = 5.94

Source: pulse real estate monitor

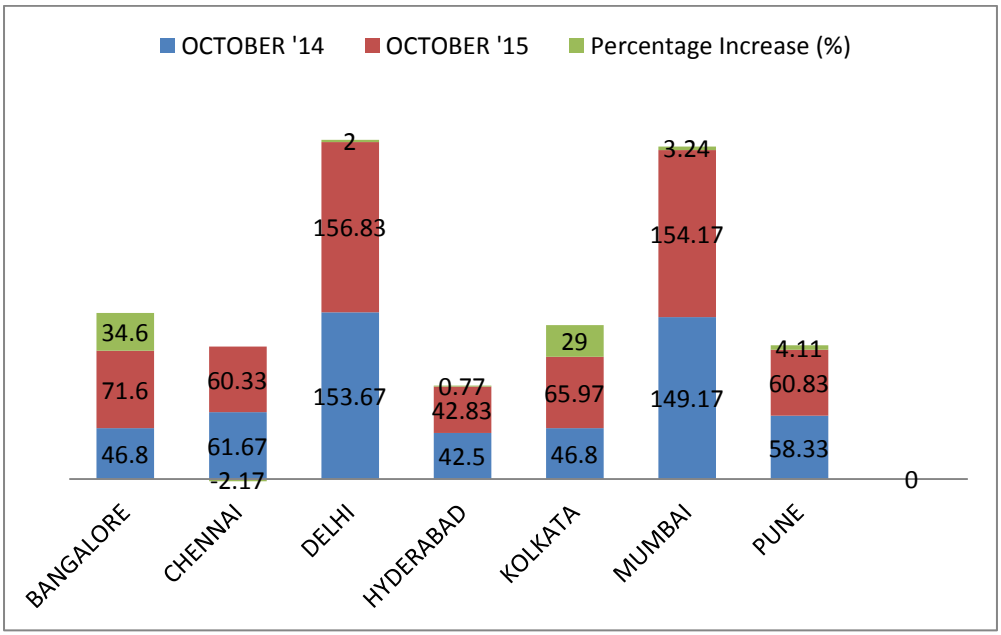


Figure8. Statistical chart of bpo'sminimum rental rates

Note: Minimum rents are assumed for the small BPO companies which need office space in major areas/sectors of the city, as these companies will not be looking at the premium land locations to set up their offices.

The values of $\bar{d}$ and s_d are calculated as follows:

$$s_D = \sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N-1}}$$

where D = X - Y, or the difference between each person's pretest and posttest score, and N = the number of pairs of scores.

$S_d = 3.59, S\bar{d} = 1.35$

We are to test if the mean yearly rent for the office space has increased by the virtue of FDI inflow into the BPO industry. Let μ_1 be the rents in October 2014, when FDI was not friendly for the investors and μ_2 is the mean rent of the office space in October 2015 after the government of India has liberalized the rules to convert the environment into investor friendly. Then $\mu_d = \mu_2 - \mu_1$. The mean rent will increase because of the increasing demands of office space since the investors will be willing to invest in business-friendly environment, here the environment is turned friendly after the government has made it easy to invest in various sectors, in this case the IT sector (BPO, as per assumption), which can be written as $\mu_1 - \mu_2 < 0$ or $\mu_d < 0$. Consequently, the null and alternative hypotheses are, respectively,

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean rent for office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean rent for office space does increase)

Here, σ_d is unknown, the sample size is small ($n < 30$), but the population of paired differences is normally distributed. Therefore, we use the t distribution to conduct the test.The< sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

The critical value of *t* for *d.o.f* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

The value of the test statistic t for $\bar{d}$ is compounded as follows:

$$T = (\bar{d} - \mu_d) / S\bar{d}$$

= (-3.563-0)/ 1.35

= -2.21

Table 6. Maximum rental rates for office space of BPO's:

	OCTOBER '14	OCTOBER '15	Percentage Increase (%)
BANGALORE	46.80	71.60	34.6
CHENNAI	61.67	60.33	-2.17
DELHI	153.67	156.83	2
HYDERABAD	42.50	42.83	0.77
KOLKATA	46.80	65.97	29
MUMBAI	149.17	154.17	3.24
PUNE	58.33	60.83	4.11
			Average = 10.22

Source: pulse real estate monitor

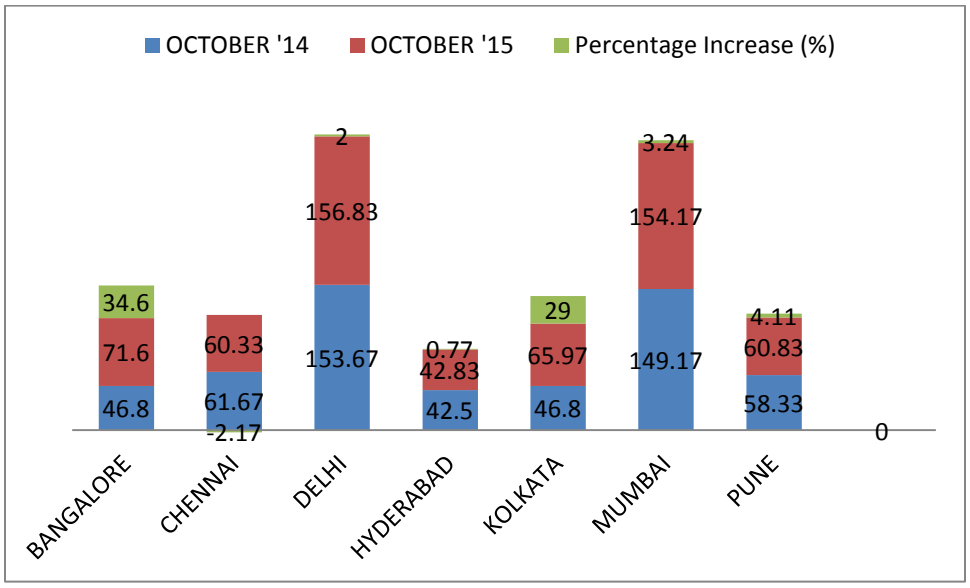


Figure 9. Bpo'sstatistical chart of max. Rental rates

Note: Maximum rents are assumed for the considerably large BPO companies which the office need space in major areas/sectors of the city, as these companies will be looking at the premium land locations to set up their offices to have easy access and to locate them easily by others.

S_d= 10.12373

$S\bar{d}$ = 3.826

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean rent for office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean rent for office space does increase)

The < sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

The critical value of *t* for *df* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

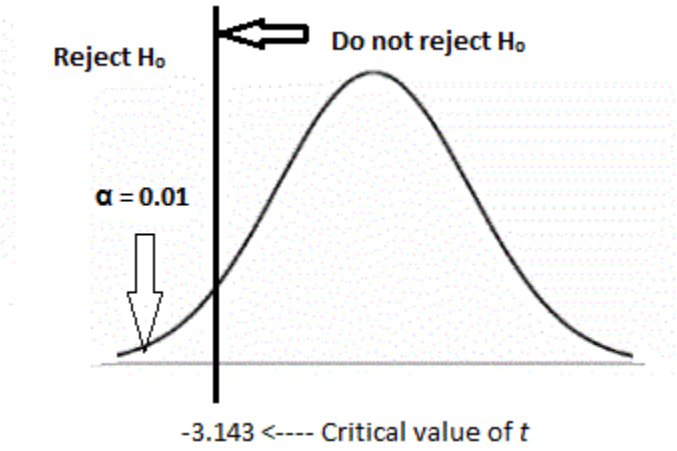
The value of the test statistic t for $\bar{d}$ is compounded as follows:

$$T = (\bar{d} - \mu_d) / S\,\bar{d}$$

$$= (-7.667-0)/ 3.826$$

$$= -2.004$$

Figure 10 T-distribution curve



Because the value of the test statistics t = -2.21 (for minimum rents) and t = -2.004 (for maximum rents) for $\bar{d}$ falls in the non-rejection region, we accept the null hypothesis. Consequently we conclude that the mean rent for office space for small businesses and enterprises does not increase because of better investment options through FDI. Further, the average increase in the rent rates hasn't been hampered much even though we benchmark it against the current inflation level of 7%.

4.1.2 Calculation and tests for capital rates for office space

Table 7.Minimum rental rates for office space of small IT companies:

	Oct '14	Oct '15	Percentage Increase
BANGALORE	4280	6060	29.4
CHENNAI	6125	6125	0
DELHI	15300	16200	5.56
HYDERABAD	3833	3833	0
KOLKATA	5750	7880	27
MUMBAI	11833	11866	0.3
PUNE	5250	5750	8.7
			Average = 10.14

Source: pulse real estate monitor

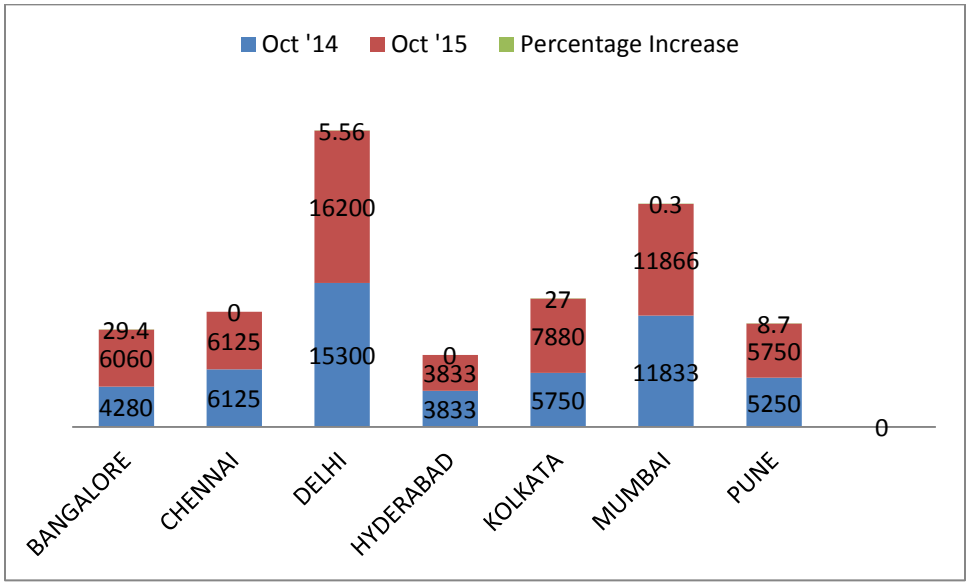


Figure 10..IT companies statistical chart for min. Rental rates

Note: Minimum capital rates are assumed for the small IT companies which need the office space in major areas/sectors of the city, as these companies will not be looking at the premium land locations to set up their offices.

S_d = 883.94508

$S\bar{d}$ = 360.87

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean capital value of office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean capital value of office space does increase)

The < sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

The critical value of *t* for *d.o.f* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

The value of the test statistic t for $\bar{d}$ is compounded as follows:

$T = (\bar{d} - \mu_d) / S\,\bar{d}$

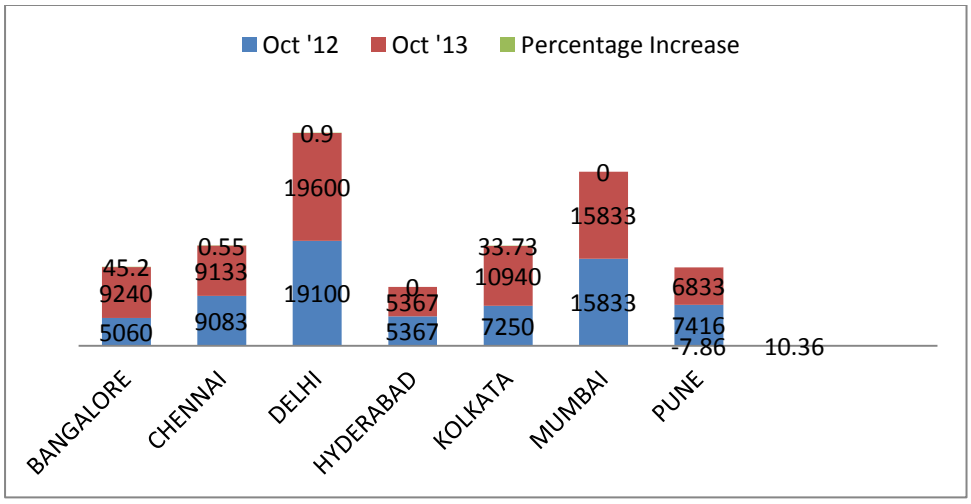
= (-763.3 – 0) / 360.87

= -2.11

Table 8. Maximum rental rates for office space of small IT companies:

	Oct '14	Oct '15	Percentage Increase
BANGALORE	5060	9240	45.2
CHENNAI	9083	9133	0.55
DELHI	19100	19600	0.9
HYDERABAD	5367	5367	0
KOLKATA	7250	10940	33.73
MUMBAI	15833	15833	0
PUNE	7416	6833	-7.86
			10.36

Source: pulse real estate monitor



.**Figure 11.**IT Companies Statistical Chart for max.rental rates

Note: Maximum capital rates are assumed for the large IT companies/global giants which need the office space in major areas/sectors of the city and strategically locate them at the heart of the sector/area, which calls them to purchase the premium lands in the respective locations.

S_d = 1953.91947

$S\bar{d}$ = 797.31

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean capital value of office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean capital value of office space does increase)

The < sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

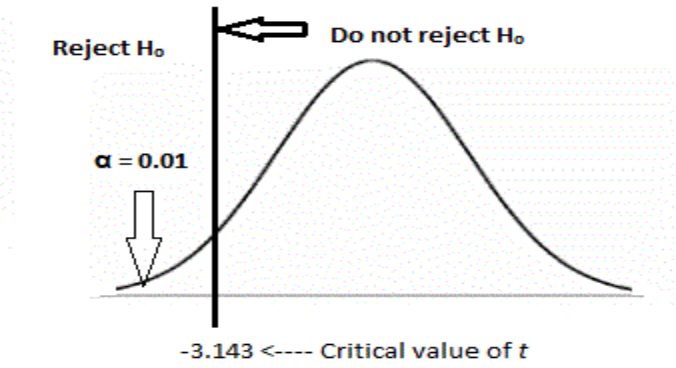
The critical value of *t* for *df* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

The value of the test statistic t for $\bar{d}$ is compounded as follows:

$T = (\bar{d} - \mu_d) / S\bar{d}$

= (- 1119.6 – 0) / 797.31

-1.404



Because the value of the test statistics t = -2.11 (for minimum rents) and t = -1.404 (for maximum rents) for $\bar{d}$ falls in the non-rejection region, we accept the null hypothesis.

4.1.3.Calculation and tests for capital rates of Retail space

Table 9. Minimum rental rates for office space of organized retail stores:

	OCTOBER '14	OCTOBER '15	Percentage Increase
BANGALORE	10000	9600	-4
CHENNAI	10750	10750	0
DELHI	13750	14860	7.47
HYDERABAD	9830	9830	0
KOLKATA	11250	16800	33
MUMBAI	11500	11850	2.8
PUNE	9330	9330	0

Source: pulse real estate monitor

Note: Minimum capital rates are assumed for the large organized retail companies/giants who need large space in major areas/sectors of the city and strategically locate them at the residential section of the sector/area, where the rates are considerably lesser than the commercial rates.

S_d = 2084.68

$S_{\bar{d}}$= 787.93

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean capital value of office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean capital value of office space does increase)

The < sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

The critical value of *t* for *df* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

The value of the test statistic t for $\bar{d}$ is compounded as follows:

$$T = (\bar{d} - \mu_d) / S\,\bar{d}$$

$$= (-944.28-0) / 787.93$$

$$= -1.198$$

Table 10. Maximum rental rates for office space of organized retail stores:

	OCTOBER '14	OCTOBER '15	Percentage Increase
BANGALORE	15800	15400	-2.5
CHENNAI	13250	13420	1.27
DELHI	21330	22170	3.8
HYDERABAD	12300	12330	0
KOLKATA	14750	21500	31.4
MUMBAI	18660	17920	-3.9
PUNE	13330	13330	0
			Avg = 4.3

Source: pulse real estate monitor

Note: Maximum capital rates are assumed for the large organized retail companies/giants who need large space in major areas/sectors of the city and strategically locate them at the heart of the sector/area, which calls them to purchase the premium lands in the respective locations.

$S_d = 2605.9$

$S\bar{d} = 984.93$

H_o: $\mu_d = 0$ ($\mu_1 - \mu_2 = 0$ or the mean capital value of office space does not increase)

H_1: $\mu_d < 0$ ($\mu_1 - \mu_2 < 0$ or the mean capital value of office space does increase)

The < sign in the alternative hypothesis indicates that the test is left-tailed. The significance level is 0.01. Hence,

Area in left tail = $\alpha = 0.01$

Degrees of freedom = n-1 = 7 – 1 = 6

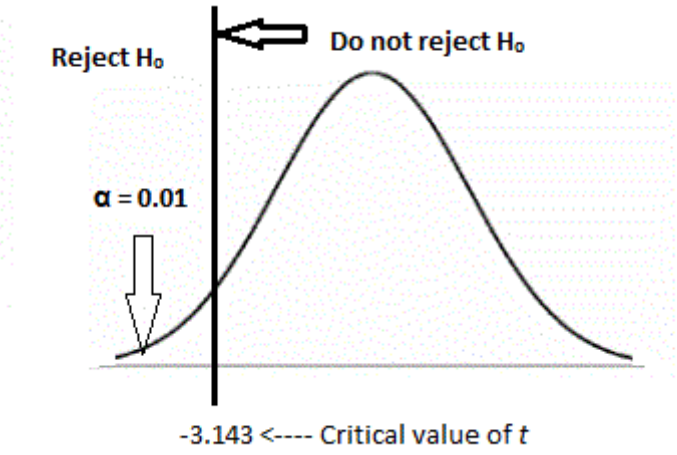
The critical value of *t* for *df* = 6 and 0.01 area in the left tail of the t-distribution curve is -3.143.

The value of the test statistic t for $\bar{d}$ is compounded as follows:

$$T = (\bar{d} - \mu_d) / S\,\bar{d}$$

$$= (- 945.7 – 0) / 984.93$$

$$= - 0.96$$



Because the value of the test statistics t = -1.198 (for minimum capital value) and t = - 0.96 (for maximum capital value) for $\bar{d}$ falls in the non-rejection region, we accept the null hypothesis. Consequently we conclude that the mean rent for retail space has not increased.

But when we observe the difference between the minimum and maximum values, there's a huge gap. This suggests that the organized retail sector is getting bigger and stronger. There's place for everyone in the market. This is perhaps the most active phase of the Indian retail industry in terms of growth, entry of new players and development of new formats. A growing middle class, increasing disposable income as well as a large and young consumer population led to rapid growth in the Indian retail market.

CHAPTER 5

WILCOXON SIGNED RANK TEST

Our above assertion was based on what were the outcomes of hypotheses testing (t-test). To enhance our proof of truthfulness of study, here we try support the hypotheses by further testing them by non-parametric test.

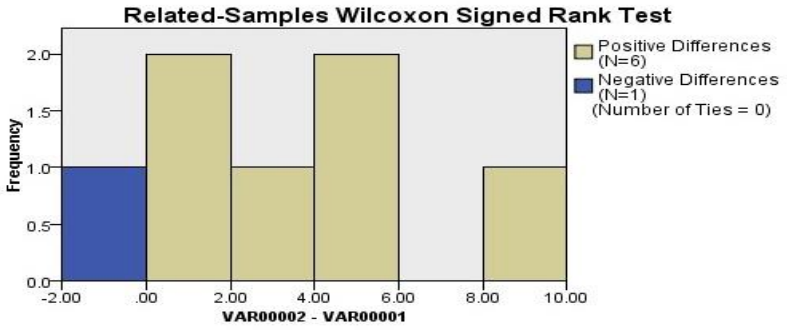
The analysis of the inputs has resulted in the following

Table 11. Minimum rental rates for office space of BPO's:

	OCTOBER '14	OCTOBER '15	
	VAR00001	VAR00002	Percentage Increase (%)
BANGALORE	42.00	51.80	23.3
CHENNAI	42.50	41.50	-2.35
DELHI	98.50	100.33	1.85
HYDERABAD	34.67	35.33	1.87
KOLKATA	42.00	46.65	9.96
MUMBAI	110.83	116.67	5
PUNE	46.67	49.83	6.34
			Average = 5.94

Source: pulse real estate monitor

Note: Minimum rents are assumed for the small BPO companies which need office space in major areas/sectors of the city, as these companies will not be looking at the premium land locations to set up their offices.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.043	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

FIGURE12: MIN. RENTAL RATES OF BPO'S

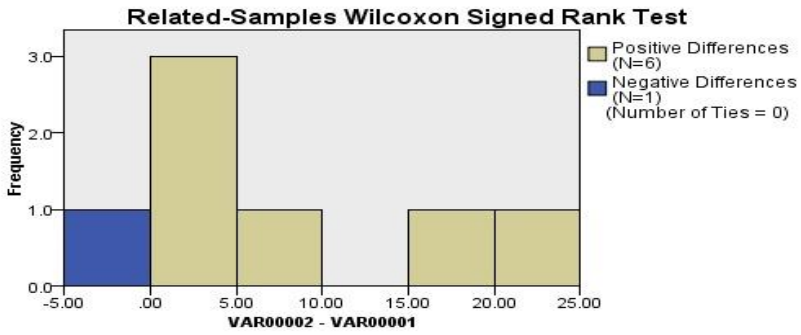
The significance obtained here in this case in 0.043, whereas our level of significance was 0.05, which is quite close to what we have obtained. This indicates that there has been no effect of the FDI in this case, which is contradictory to the t-test.

Table 12. Maximum rental rates for office space of BPO's:

	OCTOBER '14	OCTOBER '15	
	VAR00001	VAR00002	Percentage Increase (%)
BANGALORE	46.80	71.60	34.6
CHENNAI	61.67	60.33	-2.17
DELHI	153.67	156.83	2
HYDERABAD	42.50	42.83	0.77
KOLKATA	46.80	65.97	29
MUMBAI	149.17	154.17	3.24
PUNE	58.33	60.83	4.11
			Average = 10.22

Source: pulse real estate monitor

Note: Maximum rents are assumed for the considerably large BPO companies which the office need space in major areas/sectors of the city, as these companies will be looking at the premium land locations to set up their offices to have easy access and to locate them easily by others.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.043	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

FIGURE 13: MAX. RENTAL RATES OF BPO'S

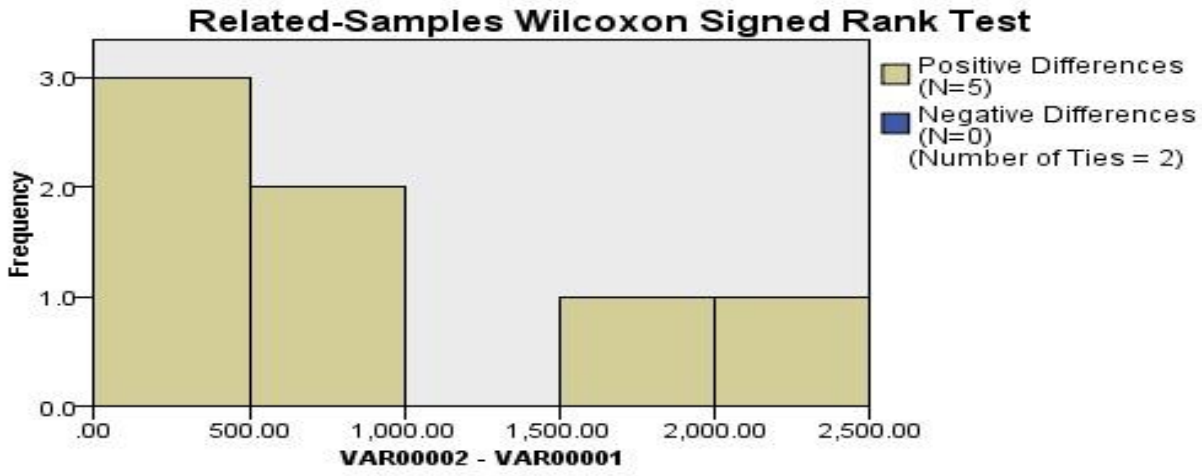
The significance obtained here in this case in .043, whereas our level of significance was 0.05. This indicates that there has been no effect of the FDI in this case, which is contradictory to the t-test.

Table 13. Minimum rental rates for office space of small IT companies:

	Oct '14	Oct '15	Percentage Increase
	VAR00001	VAR00002	
BANGALORE	4280	6060	29.4
CHENNAI	6125	6125	0
DELHI	15300	16200	5.56
HYDERABAD	3833	3833	0
KOLKATA	5750	7880	27
MUMBAI	11833	11866	0.3
PUNE	5250	5750	8.7
			Average = 10.14

Source: pulse real estate monitor

Note: Minimum capital rates are assumed for the small IT companies which need the office space in major areas/sectors of the city, as these companies will not be looking at the premium land locations to set up their offices.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.043	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

FIGURE14:MIN. RENTAL RATES OF IT COMPANIES

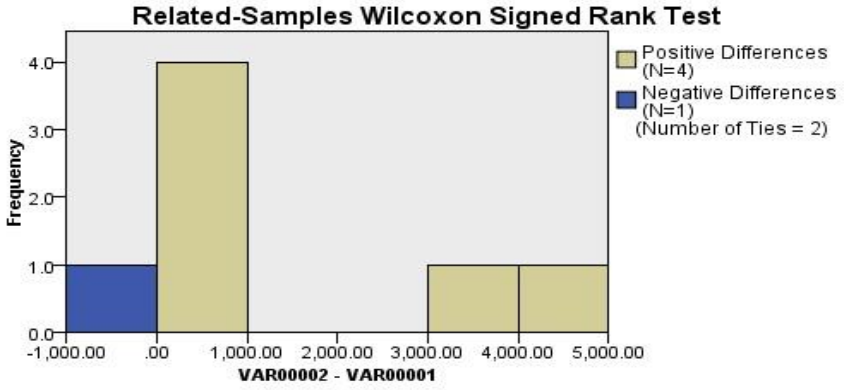
The significance obtained here in this case in 0.043, whereas our level of significance was 0.05, which is quite close to what we have obtained. This indicates that there has been no effect of the FDI in this case, which is contradictory to the t-test.

Table 14. Maximum rental rates for office space of small IT companies:

	Oct '14	Oct '15	Percentage Increase
	VAR00001	VAR00002	
BANGALORE	5060	9240	45.2
CHENNAI	9083	9133	0.55
DELHI	19100	19600	0.9
HYDERABAD	5367	5367	0
KOLKATA	7250	10940	33.73
MUMBAI	15833	15833	0
PUNE	7416	6833	-7.86
			10.36

Source: pulse real estate monitor

Note: Maximum capital rates are assumed for the large IT companies/global giants which need the office space in major areas/sectors of the city and strategically locate them at the heart of the sector/area, which calls them to purchase the premium lands in the respective locations.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.225	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

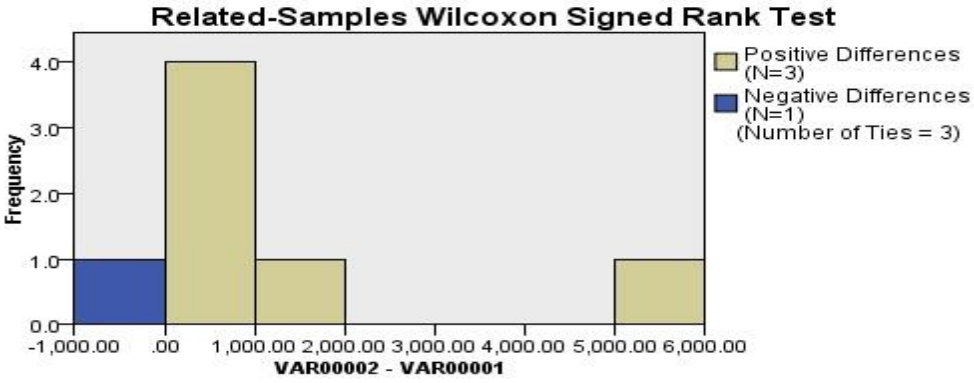
FIG.15:MAX.RENTAL RATES OF IT COMPANIES

The signific.ance obtained here in this case in 0.225, whereas our level of significance was 0.05. This indicates that there has been change in the rates by the virtue of the FDI in this case, which supports the hypothesis proved by t-test.

TABLE 15:Minimum rental rates for office space of organized retail stores

	Oct '12	Oct '13	Percentage Increase
	VAR00001	VAR00002	
BANGALORE	10000	9600	-4
CHENNAI	10750	10750	0
DELHI	13750	14860	7.47
HYDERABAD	9830	9830	0
KOLKATA	11250	16800	33
MUMBAI	11500	11850	2.8
PUNE	9330	9330	0
			Avg = 5.61

Source: pulse real estate monitor



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.273	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Fig 16- Minimum rental rates for office space of organized retail stores

The significance level is .05

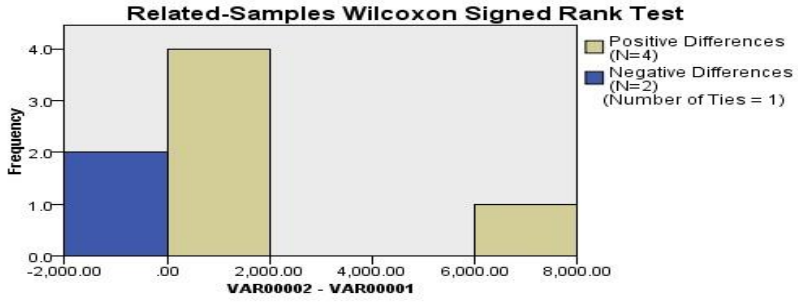
The significance obtained here in this case in 3.04, whereas our level of significance was 0.05. This indicates that there has been change in the rates by the virtu of the FDI in this case, which supports the hypothesis proved by t-test.

Table 16: Maximum rental rates for office space of organized retail stores

	Oct '12	Oct '13	Percentage Increase
	VAR00001	VAR00002	
BANGALORE	15800	15400	-2.5
CHENNAI	13250	13420	1.27
DELHI	21330	22170	3.8
HYDERABAD	12300	12330	0
KOLKATA	14750	21500	31.4
MUMBAI	18660	17920	-3.9
PUNE	13330	13330	0
			Avg = 4.3

Source: pulse real estate monitor

Note: Maximum capital rates are assumed for the large organized retail companies/giants who need large space in major areas/sectors of the city and strategically locate them at the heart of the sector/area, which calls them to purchase the premium lands in the respective locations.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between VAR00001 and VAR00002 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.463	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Fig 17 : Maximum rental rates for office space of organized retail stores

The significance obtained here in this case in 0.463, whereas our level of significance was 0.05. This indicates that there has been change in the rates by the virtu of the FDI in this case, which supports the hypothesis proved by t-test.

CHAPTER-6

CONCLUSION

Out of five major cities we have considered, Bangalore, Mumbai and Pune are the cities which really show the growth in office rents. Upon testing the hypothesis we have found out that mean rent for office space does not increase. But as we have discussed, we concede that it is a type II error. . Upon testing the same under non-parametric test that is Wilcoxon signed rank test it rejects the null hypothesis indicating that the office space has indeed increased after waves of reforms were made in FDI circular. This is supported by the fact that the average increase in the office space rental value is 10.22%, which is just 2.5% of the current inflation rate of 7.5%.

With regards to the secondary real estate demand generation, again IT sector has boosted the likes of hospitality sector. Though the demand for the rooms are generally high in tourist locations, incidentally that has not been the case as we have observes the demand for rooms in hospitality sector has been in the cities which have emerging and growth trends in IT industry. This has also lead for the subsequent land demand from the hospitality sector which in this is a no-brainer.

Retail sector has been the sector recently subjected to the tough test of the government rules in FDI, which finally gained a win-win situation in terms of reforms in the previous circular. Our test results show that there hasn't been a clear indication of increase in the rental values, which is for both small kirana shops and organized retail.

The major of the small kirana stores and small organized retail shops have their base in small commercial complexes which give them fair rental values. Further, the average increase in the rental value is 5.1% for minimum rents and 7.47% for maximum rents, both of which again fall short of the benchmark of 7.5% against the inflation.

Thus, testing the hypothesis in both t-test and Wilcoxon signed rank test (non-parametric) has yielded the same result. Thus we deduce that the average rental rates for retail haven't been on an upsurge, suggesting that FDI has no impact on this part of the sector.

Further, on analyzing the capital rates we found out that the increase in the capital value has been just 5.1% and 4.3% for minimum and maximum values respectively, which again is below 7.5% of inflation benchmark. This leads for us to concede that the FDI hasn't had the hand in the increased capital land value yet.

Our test results show that there hasn't been a clear indication of increase in the rental values, which is for both BPO and IT sector .

But we expect a turn-around in upcoming years as the FDI in retail has been increased up to 100% thus opening up the chances for the foreign players to look into the untapped market in India..

Physical infrastructure is one of the major factors which a company looks into when it enters the new market. Though there has been a new awareness in the government policies towards infrastructure, it can be more linked to the fact that India is an emerging economy.

I have already seen the pattern of development in Shanghai and Istanbul (at city levels) which show the sizeable boost in infrastructure after the foreign players had shown interest in investing in respective cities. The beginning curve of the cities of India are on the same path showing very sluggish improvement in the city infrastructure but in long term governments of respective places have realized the importance and the inflow of investment in city infrastructure has been on a rise.

In overall development of infrastructure in Turkey was found out to be in parallel pattern to that of the model we currently we have. Thus we also deduce that the minimum requirement of putting up good infrastructure facilities is 15 years, though those of many countries, it has been taken an average of 10 years after the FDI in those countries were allowed, we are expected to face stiff challenges in terms of political instability, currency instability, labour demand – supply variation.

Thus we conclude that the FDI has a positive impact on the real estate, infrastructure and allied sectors. But we do not expect the development to take place in short term as the FDI is not the only major factor acting towards these sectors. In a long run, we expect a stiff growth in both demand and value of real estate be it in commercial, office space or any other form.

The present Central Government under the leadership of ShriNarendraModi, Hon'ble Prime Minister of India has announced path breaking reforms for construction development sector in November 2015 with the aim to attract more foreign capital into realty sector.

The FDI reforms announced by the DIPP, Govt. of India for construction development sector is expected to provide a new direction to foreign investment regime for realty sector in the country, help industry to tide over financial crunch that it has been facing due to slowdown in real estate and may also help the industry and Government in achieving the mission of "Housing for All by 2022".

Though the real impact of latest FDI liberalisation measures on foreign investments in Indian real estate will be reflected over a period of time FICCI has undertaken a quick survey amongst various stakeholders comprising developers, investors and consultants to assess the mood of real estate industry and their perception on relaxed FDI norms for real estate sector

The survey analysis results are as below:

1. **Industry is happy and satisfied with current FDI reforms in construction development sector**

On the level of satisfaction a majority of respondents surveyed have rated the recent steps of the Central Govt. as positive and feel satisfied with the policy development. According to the survey, about 22% of the respondents are highly satisfied and 56% are satisfied with the changes made in FDI policy for construction development sector while 22% respondents have given a neutral rating.

2. **Increased confidence and optimism in industry towards future flow of FDI in real estate**

Industry has shown high level of confidence and optimism towards future flow of foreign capital into realty sector. Almost all (100%) respondents have felt that recent FDI reform measures will certainly increase flow of FDI into realty sector in coming months. About 55% of the respondents feel that there will be more than 15% annual increase in FDI flow into realty sector due to current steps while 23% are of the view that increase will be in the range of 10-15% and a similar percentage 22% feeling that increase in FDI flow will be less than 10% annually from hereon.

3. **Big boost to Real Estate Investment Trusts (REITs) from 100% FDI under automatic route in completed projects for operation and management**

According to our survey, majority of the respondents (89%) feel that allowing of 100% FDI under automatic route in completed projects for operation and management of townships, malls/shopping complexes and business centres is a significant step taken by the Government and will boost the market for REITs. However, rest 11% feel that this policy change will not be a game changer for REITs in India.

FICCI had suggested to DIPP that FDI investor making investments for operation and management of completed projects of malls/shopping complexes and business centres should be entitled to lease such projects. The recent FDI reforms announced has clarified this point.

4. **Scope for further improvements in the FDI regime of India for real estate investments vis-à-vis other countries; States have to take an active role in attracting FDI**

A major outcome of the survey is that industry feels there is further scope for improvements in the FDI regime of the country. According to our analysis a majority of about 67% respondents feel that current FDI regime for real estate in India vis-àvis other countries is "average" while only 33% feel that the FDI regime in India for real estate investments is "good". This finding points to the fact the developer and investor communities still have some doubts in their minds when it comes to attracting foreign investments into Indian real estate. The reason for the "average rating" of FDI regime particularly for real estate sector by majority could be the past experience of investors with regard to laws and regulations that governed foreign investments in realty sector.

Infrastructure Sector: Infrastructure sector received 28.6 percent of total FDI inflows from 2000 to 2008. Initially, the inflows were low but there is a sharp rise in FDI inflows from 2005 onwards. Among the subsectors of Infrastructure sector, telecommunications received the highest percentage (8 percent) of FDI inflows. Other major subsectors of infrastructure sectors are construction activities (6.15 percent), real estate (5.78 percent) and power (3.16 percent). Mauritius (with 56.3 percent) and Singapore (with 8.54 percent) are the two major investors in this sector. In India highest percentage of FDI inflows for infrastructure sector is with New Delhi

(23.2 percent) and Mumbai (20.47 percent). Infrastructure sector received a total of. 2528 numbers of foreign collaborations in India. Out of 2528 numbers of foreign collaborations 633 were technical and 2795 were financial collaborations, which involves an equity participation of US$ 111.0 bn. The top five Indian companies which received FDI inflows in Infrastructure sector during 2000 to 2008 are IDEA, Cellule Ltd., BhaikInfotel P. Ltd., Dabhol power Company Ltd., and Aircel Ltd.

Services sector: In recent years Services sector puts the economy on a proper gliding path by contributing 55 percent to GDP. There is a continuously increasing trend of FDI inflows in services sector with a steep rise in the inflows from 2005 onwards. Services sector received an investment of 19.2 bn from 1991 to 2008. Among the subsectors of services sector, financial services attract 10.2 percent of total FDI inflows followed by banking services (2.22 percent), insurance (1.6 percent) and non- financial services (1.62 percent). In India, Mumbai (with 33.77 percent) and Delhi (with 16 percent) are the two most attractive locations which receives heavy investment in services sector. It is found that among the major investing countries in India Mauritius tops the chart by investing 42.5 percent in services sector followed by U.K (14.66 percent) and Singapore (11.18 percent). During 1991 to Dec 2008 services sector received 1626 numbers of foreign collaborations, out of which 77 are technical and 1549 are financial in nature.

Trading sector: Trading sector received 1.67 percent of the total FDI inflows from 1991-2013. The sector shows a trailing pattern upto 2005 but there is an exponential rise in inflows from 2006 onwards. Trading sector received 1130 (1111 numbers of financial collaborations and 20 numbers of technical collaborations) numbers of foreign collaborations during 1991-2008. Major investment in this sector came from Mauritius (24.69 percent), Japan (14.81 percent) and Cayman Island (14.6 percent) respectively during 2000-2008. In India, Mumbai (40.76 percent), Bangalore (15.97 percent) and New Delhi (12.05 percent) are the top three cities which have received highest investment in trading sector upto Dec. 2008. Trading of wholesale cash and carry constitute highest percentage (84 percent of total FDI inflows to trading sector) among the subsectors of trading sector.

Consultancy Sector: Consultancy sector received 1.14% of total FDI inflows during 2000 to 2008. Among the subsectors of consultancy sector management services received highest amount of FDI inflows apart from marketing and design and engineering services. Mauritius invest

heavily (37%) in the consultancy sector. In India Mumbai received heavy investment in the consultancy sector. Consultancy sector shows a continuous increasing trend of FDI inflows from 2005 onwards.

Housing and Real Estate Sector: Housing and Real Estate sector received 5.78% of total FDI inflows in India upto 2008. Major investment (61.96%) in this sector came from Mauritius. New Delhi and Mumbai are the two top cities which received highest percentage of (34.7% and 29.8%) FDI inflows. Housing sector shows an exponentially increasing trend after 2005.

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