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STUDY ON THE IMPACT ON THE REAL ESTATE SECTOR IN INDIA BEFORE AND AFTER THE PANDEMIC

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INTRODUCTION

ABSTRACT

The coronavirus (COVID-19) had emerged in the WUHAN district of China and was declared as a pandemic by the World Health Organization on 11th March 2020. At the beginning many countries including India decided to enter into a lockdown to try and stop the spread of the virus. The economic implications of Covid-19 are expected to be worse than that of the Global Financial Crisis (GFC). OECD (2020) projections for Gross Domestic Product (GDP)

India entered into lockdown in March 2020 for a period of 21 days. This had a major impact on various industries around the globe. Real estate is one of the industries which was affected in a severe manner because of the pandemic. Stock markets of almost all countries were the first to respond to the pandemic with the price of various stocks falling. The response of the stock market and the real estate sector of India is being analyzed in this report.

This paper studies the impact the pandemic had on the real estate index of NSE (National Stock Exchange). It compares the number of shares traded before and after the pandemic, the change in the market return of the shares of the companies that are listed under the NSEs Real Estate index of the country and the liquidity of the companies' shares. The companies taken into consideration are – SOBHA LIMITED, DLF HOUSING LIMITED, OMAXE GROUP, GODREJ PROPERTIES, SUNTECK REALTY, OBEROI REALTY, INDIA-BULLS REAL ESTATE, BIRGADE GROUP, PRESTIGE LIMITED AND PHOENIX LIMITED.

This study has a taken period of 9 months (June 2019 – Feb 2020) before the lockdown which was caused because of the COVID-19 Pandemic and a period of 9 months (April 2020-December 2020) after the lockdown to check the effect the pandemic had on the volume, liquidity and market return of the real estate companies.

Index Terms –Market Return , Liquidity , Volume , NSE , Regression , Real Estate , Paired Sample T-test

1.2 COMPANY PROFILE

SOBHA LIMITED

SOBHA LTD is one of the companies that is listed in the real estate index and its one of the major real estate companies that is present In India. It was founded in the year 1995 by P.N.C Menon. P.N.C Menon is an Indian born Omani billionaire who is from Kerala (India) and he is the founder as well as the chairman of Sobha ltd and Sobha LLC

Sobha ltd is Initially started its operations in Bangalore India. Sobha ltd follows the philosophy of 'Passion at Work' its this philosophy that enables the employees of Sobha ltd to live by this philosophy daily this helps them create world class quality products and workman ship. They are one of the most reliable and trustworthy developers in the nation who have revolutionaries the real estate industry. They have their business all across the country from Bangalore, Chennai, Pune, Mumbai , Mysore and many more to follow.

Sobha ltd includes earning revenue from interiors, development of property for companies, their incomes also includes the earning from construction, providing various financial services. Sobha ltd ended the quarter 31-12-2020 with a consolidated net income with 693.30 cr despite the impact of the pandemic on this sector which was up by almost 27% from the last quarter total income of

545 crs despite the increase from the last quarter sobha total income has fallen by 22.74% compared to the quarter ending December 2019.

The shareholding pattern of sobha ltd is as follows with 51.99 % held with the promoters of the company, FII holding 15.97% , the public holding 18.71% and DII holding the remaining 13.35 %.

Sobha ltd is listed in BSE 500 and is not included in Nifty 50. Sobha ltd comes under the mid-cap companies with the current market capital of SOBHA LTD is 44.42 Billion and a price earnings ratio of 46.43.

Achievements

SUNTECK REALTY

Sunteck ltd is a Mumbai based real estate companies listed In NSE and BSE and its one of the companies listed in the real estate index. Sunteck Ltd is a Mumbai based real estate company that is involved in building commercial and residential houses and its known for building high end properties in Mumbai. Sunteck Ltd has been listed in the fortune next 500 companies for the past 4 years starting 2017. Sunteck ltd was set up in the year 1981 as a mid-cap company by Kamal Khetan who is the chairman and the managing director of Sunteck ltd. Sunteck ltd is one of the fastest growing real estate in Mumbai covering an area of almost 37.5 million sq. feet and having over 27 projects

The current market capital of Sunteck Ltd is 5003 cr with a dividend yield of 0.44, has a Earning per share of 3.01 and is listed in BSE 500. The shareholding pattern of sunteck is as follows, with the promoters holding 67.16% , FII having 23.58 % DII holding 3.65 % and the public holding 5.61%.

Sunteck ltd has shown a consolidated net income of 208.66 cr for the quarter ending 31-12-2020 which has increased massively compared to the last quarter by 40.93% and by 4.97 % percent compared the last year quarter ending December 2019. This shows that the market is recovering after the pandemic. The net profit reported is 21.01 cr. Sunteck ltd has 14.64 cr shares which are outstanding.

Sunteck has won many awards of which some are as follows – Affordable housing project of the year and iconic project to name a few.

OMAXE

Omaxe is one of the top builders in India with years of experience and having almost 124.34 million sq. feet under its operation. Omaxe Ltd is founded by a first-generation entrepreneur by Rhotas Goel who a civil engineer was also. He founded omaxe in the year 1987 as a mid-cap and in the year 1999 it was made Limited company. Rhotas Goel has a professional courier with a private construction firm but later went on to build a empire called Omaxe ltd. He was also featured in India's top 50 richest people. Omaxe has a good portfolio of assets from building residential, commercial, shopping malls and other major projects. Its currently present in 27 cities across the country mainly in Uttar Pradesh, Haryana, Rajasthan, Delhi, himachal Pradesh to name a few.

Omaxe limited has a market capital of 1305 crs with P/B being 0.92 and is listed in BSE 500. The shareholding pattern of Omaxe ltd is as follows with promoters holding 74.14% and FII holding 9.92% DII holding 2.82% and the public holding 13.11 % this comprises of the shareholding pattern of Omaxe ltd.

Omaxe has a consolidated net income of 105.40 crs for the quarter ending 31-12-2020 which was down compared to the last quarter by 35.52% and the pandemic has impacted this industry quite a bit, this quarters consolidated net income is down by 43.24% compared to last year quarter ending 31-12-2019.

Omaxe have won a lot of awards including the young achiever of the year 2020 , India's inspirational leader 2020 by a global consulting firm.

INDIA BULLS REAL ESTATE

India bulls group is a real estate company that is head quartered in Gurgaon India who has presence in the real estate sector as well. Indiabulls had started its operation in the year 1999 and it started out as a financing company but later on it has a great presence in the real estate sector of India as well. Sameer Gehlaut is the chairman and a non-executive director at IndiaBulls Real Est whose registered office is in Delhi.

India Bulls is featured in BSE 500. It has a market capital of 5467.33 Cr with a P/B ratio of 3.95. The Shareholding of IndiaBulls is as follows with the promoters holding 23.38 % , FII holding 9.39 % , DII holding a mere 0.57% and the majority is held by the public who holds 65.98%. The net total income for the quarter ending December 2020 has fallen to 756.81 cr from the same quarter ending 31-12-2019 which was 1317.70 but the total net income has increased from the previous quarter ending September 2020 which has a total net income of 50.70 showing that the pandemic had a severe impact on the company but the company is on the road of its revival.

India Bull was ranked 20th among India's best companies to work for in 2019, best social media brand in BFSI sector . IndiaBulls is rated a 'AA' by various rating agencies including CRISIL and ICRA

OBEROI REALTY

Oberoi Realty was registered in the year 1993 and it was originated in Mumbai. The activities of oberoi realty include all real estate work. The company become public in the year 2009. Vikas Oberoi is the managing director and the chairman of oberoi realty ltd with over two decades of experience, he is also a Harvard business school alumnus. Oberoi Realty follows the vision to Create spaces that would enhance the quality of life and believe in team work. Oberoi Realty is registered as a large cap

Oberoi Realty has a market capital of 19,809 cr a PE ratio of 28.24 and a P/B ratio of 2.32. The shareholding pattern of Oberoi Realty is as follows with the promoters holding the majority of about 67.7% followed by FII who hold 25.61% DII 4.33% and public holding every less of about 0.01%. Oberoi realty is listed in the BSE 500 with its registered office in Mumbai.

Oberoi Realty has various product segments which include project development. lease rentals, income which is earned from hospitality and other sources. The quarter ending 31-12-2020 had a total income of 837.57cr which has increased compared to the previous quarter by 157.49 % showing the revival of the sector post pandemic and lockdown. It has also increased by 56% compared the quarter ending 31-12-2019. Oberoi has also shown a profit after tax of 286.80cr and has a total share outstanding of 36.36cr

Oberoi realty has won a few awards which Most admired home was, iNFHRA workplace excellence award. Oberoi have developed 42 projects at various strategic locations having 11.89 million sq. feet of spaces with another 32 million sq. feet in the making.

BRIGADE GROUP

Brigade Group was founded in year 1986 by M.R. Jaishankar. Brigade is a Bangalore based real estate companies and its present in the NSE real estate index. It has its operations mainly in South India in places such as Mangalore, Chennai , Kochi etc. They are involved with development of properties, managing of such properties, hospitality facilities and educational developments. They have a strong presence in the commercial sector in Bangalore. Brigade have a philosophy in which the believe in innovation, trust and providing the best quality product having a stable and confident business model. Godrej Properties has its presence all over the country making it one of the most trusted real estate companies in the world and the company is still growing at a very rapid pace.

They have build more than 250 plus building covering an area of around 70 million sq feet with a very diversified portfolio as far as real estate is concerned. It has a reputation of having Grade A properties. The current market capital of Brigade is 5217.56 crs and is registered as a mid-size company with a negative PE ratio of -62.70 and PB ratio of 2.12. The book value per share is 121.48. The promoters of the company are holding 47.79 %, FII holding 11.68% DII holding 20.89% and the remaining 19.64 % which is the help by the public (others) . Brigade is listed in the BSE 500.

The companies consolidated net income has risen over the last quarter by around 102.96% and for the quarter ending 31-12-2020 it reported the consolidated net income at 653.65crs. When compared to the same quarter last year i.e. 31-12-2019 the net income has increased by 14.95% which was at 568.63 crs and the reported net profit after tax for the quarter ending December 2020 is – 22.06 crs.

GODREJ PROPERTIES

This is one of the subsidiaries of Godrej industries Ltd called Godrej properties which was founded in the year 1990 by Adi Godrej. Adi Godrej is the chairman of the Godrej group having a current net worth of around US 2.3 Billion. Godrej properties has its head office in Mumbai. Godrej properties is considered as a large capital company in the real estate industry. There projects include commercial buildings, townships and residential houses.

The market capital of Godrej properties is 38,998 crs with a PE ratio of 378.06 and a PB ratio of 7.62. Its listed in the BSE 200 index as well as the real estate index for BSE and NSE. The shareholding pattern of Godrej properties is as follows with the promoters holding 64.44% followed by FII which holds 20.21 %, DII holding 5.56 % and the last 9.79 % which is held by the public. The consolidated total income of the quarter ending 31-12-2020 has increased from the previous quarter by 24.33 % to 311.12 crs but when compared to the last year quarter ending in December 2019 it has fallen by 39.88 % which was at 517.47 crs. Even after the pandemic the net profit of the company is positive and it's at 19.34 crs.

Godrej Properties has received more than 250 plus wards in the recent years for its service in the real estate industry, Godrej received 'The most trusted real estate brand' in 2019 , Builder of the year award by CNBC in the year 2018.

PRESTIGE GROUP

Prestige is real estate company having its operations in south India. Prestige was founded by Razack Sattar in the year 1986. Prestige started its operations in Bangalore but has successfully captured the south Indian market as well. The group has its extent to around 134 million sq feet and It has successfully completed 247 projects. Prestige has more than 3000 plus employees.

The market capital of prestige is 12,001 crs (mid cap company) with a P/B of 2.15 and a PE ratio of 88.71. The dividend yield is 0.50. Its listed in BSE 500 and its on of the ten companies for the real sector index for NSE. The net consolidated income for the quarter ending 31-12-2020 has increased by 0.60 % when compared to the previous quarter and if compared to the quarter ending 31-12-2019 its down by 28.49 %. The present net consolidated income for the December quarter is 1929 crs. Despite the company not growing from the previous quarter it has a net profit after tax at 99 crs. Promoters hold 65.48 % of the shares, 29.45 % is held by the FII , DII holding 2.93% and only 0.01% is held by the public.

Prestige group has won numerous awards such as the Karnataka Best Employer Award in 2020, One of India's top builders award 2020 and Best retail project of the year award to name a few. The first project for prestige was Prestige Court in Bangalore.

DLF (DELHI LAND AND FINANCE)

Delhi Land and Finance (DLF) was founded in the year 1946 by Chaudhary Raghavendra Singh. It is a real estate company that is based out from New Delhi. At present DLF is headed by Kushal Pal Singh who has a net worth of US 3.6 billion dollars and he is the CEO of DLF. DLF's IPO in the year July 2007 was one of the biggest IPOs of the country. DLF is the largest public listed company in the real estate industry with its presence in 15 states and 24 cities across the country. They believe in building India's future with the legacy of the past. DLF is a large cap company. Their key segment to earn revenue for DLF include property development, Rental income and royalty income. They have developed an area of 27.96 million sq m with 132 projects completed and numerous more under development.

They have a market capital for 72,353.36 crs , PE ratio of -58.11 and a PB ratio of 2.06. The earnings per share of DLF is -5.03. Its listed on the BSE 100 as well. The shareholdings of DLF is as follows with the promoters holding 74.95 % , 18.28% held by FII, DII holding 1.79% and 4.96% held by the public. The consolidated total income of the quarter ending 31-12-2020 has decreased from the previous quarter by 3.18 % to 1668.22 crs but when compared to the last year quarter ending in December 2019 it has risen by 8.8 % which was at 1533.34 crs. Even after the pandemic the net profit of the company is positive and it's at 282.52 crs.

DLF have won many awards some of which are as follows, Luxury project of the year by The Crest , developer of the year for residential houses in the year 2019 and India's most stylish property of the year in 2018 to name a few of the many awards won by DLF.

PHOENIX MILLS LIMITED

Phoenix mills limited was incorporated in the year 1905 and its one of the mid cap companies in the country. Phoenix mills was purchased by Ramnarain Ruia in the year 1905 as a textile company but later on it ventured into real estate industry in the year 1987 and hence forth has been one of the major real estate companies in the country. Phoenix mills has its real estate operations in various mega cities of the country such as Mumbai, Pune. , Chennai , Lucknow etc. They are mainly involved in the making of mega malls, entertainment zones , commercial buildings and hospitality sector across the country. In the year 1959 it was listed on the Bombay stock exchange. Mr Atul Ashokkumar Ruia is the chairman and the managing director of Phoenix Mills limited.

Phoenix Mills have a market capital of 13,203 crs with a P/B ratio of 2.65 and PE ratio of 390.37. Promoters of the company are holding 45.53 % of the shares, FII holding 33.45% , DII holding 17.38% and the general public holding a mere 3.62% of Phoenix Mills limited. The consolidated total income of the quarter ending 31-12-2020 has increased from the previous quarter by 53.89% % to 352.95 crs but when compared to the last year quarter ending in December 2019 it has fallen by 32.78% % which was at 525.06 crs. Even after the pandemic the net profit of the company is positive and it's at 60.12 crs.

As other real estate companies Phoenix Mills have also won several awards such as the NDTV property awards in 2016 , Asia Pacific property awards in 2015 , in 2014 it had won the designomics award to name a few.

2.1 LITERATURE REVIEW

TOPIC -1 - Housing policies worldwide during coronavirus crisis: Challenges and solutions

AUTHOR - Kholodilin, Konstantin A.

DATE – 24th September 2020.

INTRODUCTION - The pandemic has caused major losses to various industries including the real estate and this literature review talks about how without government support there a huge problem in how the cash flow is coming in and hence government aid is needed. It shows 4 ways the government of certain countries have been helping in the survival of the real estate industry. these factors are rent free, eviction ban, mortgage relief, rent subsidy.

CONCLUSION - We shouldn't push the burden on one side both the government and the firm must work its way together to come up with a solution to fight this global pandemic.

TOPIC -2 - Possible impacts of COVID-19 outbreak on real estate sector and possible changes to adopt: A situation analysis and general assessment on Turkish perspective

AUTHOR – Harun Tanrıvermiş

DATE – 6th September 2020.

INTRODUCTION - this article studies the impact of the pandemic on the real estate industry of turkey by providing various statistics and charts about the fall in employment, sales , FDI and comparing such with previous years to truly know the impact of the pandemic on this sector.

CONCLUSION - the real esate sector in turkey faced a huge loss which shows the devastating effects of the pandemic, which also provides us light on how anything can happen at any given point.

TOPIC 3 - COVID-19 Infects Real Estate Markets: Short and Mid-Run Effects on Housing Prices in Campania Region (Italy)

AUTHOR - Vincenzo Del Giudice

DATE -10th October ,2020.

INTRODUCTION - This literature review talks about the impact on real estate in Italy because of the pandemic showing graphs and statistics regarding the loss in employment, fall in house capatia income , what is expected post covid scenario. This talks the before during and what is expected after the pandemic.

CONCLUSION -Accroding to the reports there will be a recovery in they year 2021 but for such a recovery they will have to be a new product and a new system of working.

This study also highlights that many domestic places have become obsolete with the new work from home culture , smart working , residential and housing sectors declining. The prices of real estate sector have also fallen down.

TOPIC 4- The Impact of the COVID-19 Pandemic on Firm Performance

AUTHOR - Huayu Shen , Mengyao Fu , Hongyu Pan , Zhongfu Yu & Yongquan Chen

DATE – 18th December , 2020.

INTRODUCTION - This study highlights the impact of the novel coronavirus on the industries in China. This paper is divided into two parts: performance forecasting and quantifying the impact of COVID-19. They have used the data to forecast the result in 2020. The forecast results are compared with the actual value to chart the pandemic impact on firm-level performance in different industries

CONCLUSION - Our study found that the pandemic had a major negative impact on the performance of the companies listed in China by reducing the investment levels and decreasing the total revenue. Some industries like the tourism, real estate were affected more compared to other companies in the same way some regions which had a tighter restrictions because of the pandemic were affected more this sends a negative signal to its stakeholders.

TOPIC 5- The outbreak of COVID-19 pandemic and its impact on stock market volatility: Evidence from a worst-affected economy

AUTHOR – Daisy Basistha

DATE – 10th October, 2020

INTRODUCTION -the study aims to show the effect of the pandemic on the volatility of the stock. For this purpose a period from 3rd September 2019 to 10 July has been taken into consideration.They have used a generalized autoregressive model to work.. This study also shows the return pre and post covid period.

CONCLUSION - There has been a considerable change in the volatility of the stock before and during the covid-19 pandemic. The returns of the stock have reduced because of the pandemic as shown in the study. Return is higher pre covid compared to during covid.

TOPIC 6- Impact of the COVID-19 pandemic: Evidence from the U.S. restaurant industry

AUTHOR - Hyoung JuSong

DATE - 4th May , 2020.

INTRODUCTION – This study highlights the impact the US restaurant industry faced because of the pandemic pre and post. For analysis three financial indicators have been taken which are condition , capital structure and strategies.

CONCLUSION – It concludes by saying that there was a positive effect between the cash flow and Covid 19 pandemic. There is a positive as well as a negative effect on the ROA. This shows different sectors were impacted in a different way.

TOPIC 7 - Impacts and risk management of COVID-19 pandemic on real estate supply chain.

AUTHOR – Uchehara, Ikechukwu; Hamma-Adama, Mansur; Obiri, Kwadwo Ayeh; Jafarifar, Naeimeh; Moore, David

DATE – 12th November ,2020.

INTRODUCTION - This literature review studies the Covid 19 impact and its mitigation for the tenant, and across the supply chain in the real estate sector in the United Kingdom. The literature review is based on a qualitative descriptive research design. The data required has been got mainly through an review of the availability of the secondary sources. Occupiers' Sentiment Index, past recessionary financial performance were used to provide an insight into the effects of the real estate market.

CONCLUSION - The findings show dynamic trend, rooted in contract clause revamping, as suggestive of a mitigation approach by the industry. The literature reviews shows a robust platform on which a long-term response to any future unprecedented pandemic within the real estate-built environment can be delivered.

TOPIC 8 - A First Look at the Impact of COVID-19 on Commercial Real Estate Prices: Asset-Level Evidence

AUTHOR - David C Ling, Chongyu Wang, Tingyu Zhou

DATE – 23rd December 2020.

INTRODUCTION - This article studies about the impact the pandemic had on the commercial real estate prices by providing a asset-level evidence. Studies puts attention on the on the commercial real estate (CRE) assets which are listed and owned by U.S. equity real estate investment trusts (REITs). This helps provide prices of liquid stock and how quickly it can capitalize about the investors short and long run about their expected future cash flows which is most likely to be generated.

CONCLUSION - this study shows the importance of asset-level attributes in showing investors' reactions to covid -19. Movements in stock returns show forward-looking information, and stock prices are based on prospective future earnings. Whether the impact of COVID-19 on prices remains important not in the long run crucially depends on the resilience of the economy and, perhaps more importantly, how perceptions of risk change after the covid-19 pandemic .

TOPIC 9 - The Impact of the COVID-19 Pandemic on the Demand for Density: Evidence from the U.S. Housing Market

AUTHOR - Sitian Liu, Yichen Su

DATE – 23th November , 2020 .

INTRODUCTION - This study brings about the impact of the pandemic on the location demand for housing by collecting hound data and analyzing them. The paper has used geocoded data from housing to study the impact the pandemic had on the demand of housing in the neighborhood in cities in USA . The model they have used to find this is Spatial Equilibrium. Factors influencing are telecommunication, rental prices , home price index , inventory , amenities..

CONCLUSION - this literature review shows that the pandemic reduced the demand for housing in neighborhoods close to city centers and neighborhoods with high population density. The decreased demand for density is because of the reducing need for living near telework-compatible jobs due to the presence of telework. The decreased demand for density is because of the growth of consumption amenities (e.g., restaurants), which has grown because of social distancing. High demand house properties pre covid levels witnessed a fall in the demand after the impact of Covid-19.

TOPIC 10 - COVID-19 and the Stock Market

AUTHOR - Stefano Ramelli , Alexander F. Wagner

DATE – 1stDecember , 2020 .

INTRODUCTION - This literature review talks about the impact of the pandemic on the stock exchanges of the various economies of the world. They get the daily stock prices of common shares from the CompStat North America and CompStat Global databases and make. The data so received is adjusted for dividends and stock splits.

CONCLUSION - The analyses shows that most of the stocks so a fall in value for the first two quarters but eventually it can be seen that its rising. The COVID-19 has led to a significant increase in both corporate and public debt, which has exacerbated the existing fragilities of the financial markets.

TOPIC 11 - Accounting Index of COVID-19 Impact on Chinese Industries: A Case Study Using Big Data Portrait Analysis

AUTHOR - Pinglin He

DATE – 26th July

INTRODUCTION - This article takes into consideration the financial data of various Listed companies in China and after receiving such data it uses synthetic index compilation method to compile an accounting index that notes down the period before and after the COVID-19 outbreak. The index so taken is based on big data portrait analysis and notices the impact the pandemic had on the Chinese industries.

CONCLUSION - It was concluded that apart from the basic industries such as Food and beverages industries all other industries were severely affected from the pandemic mainly tourism and the real estate industry. The cost of running these industries have increased which in turn has led to the performance of the industries and the strict rules have weekend the efficiency.

TOPIC 12 - Volatility and the Cross-Section of Real Estate Equity Returns during COVID-19

AUTHOR - Stanimira Milcheva

DATE - Date Written: May 12, 2020

INTRODUCTION - This paper uses the global systemic shock associated with the outbreak of the novel coronavirus COVID-19 to assess the risk-return relationship in the cross-section of real estate equities internationally. I construct a global COVID-19 risk factor to capture the risk exposure of individual stocks to the pandemic. The paper also assesses the low-risk effect puzzle in real estate stocks

CONCLUSION – This paper find that the average firm sensitivity to the COVID-19 risk factor increases from close to zero prior to the pandemic to 0.6 during the pandemic with large variations across countries and sectors. Fama-MacBeth regressions reveal evidence for a low-risk effect – both through market and COVID-19 risks – which is not be associated with behavioral biases but rather with financial constraints. Consistent with recent research, the findings in this paper suggest that investors perceive the shock caused by the COVID-19 to be amplified by financial channels.

TOPIC 13 - Earnings Expectations during the COVID-19 Crisis

AUTHOR - Augustin Landier, David Thesmar

DATE - Published: 24 September 2020

INTRODUCTION – This paper studies how the earning have reduced for all industries in short term and is expecting to increase by the year 2022. Covid-19 has a severe impact on the earnings of all countries and all the sectors.

CONCLUSION – The analysis shows a fall in the price of equity which shows a major fall in the earnings of the company for a period post pandemic , this loss is said to be carried forward for 1-2 years before a growth can be seen.

TOPIC 14 - The COVID-19 Outbreak and Affected Countries Stock Markets Response

AUTHOR - HaiYue Liu

DATE - Received: 9 February 2020 / Revised: 12 April 2020 / Accepted: 16 April 2020 / Published: 18 April 2020

INTRODUCTION - This paper evaluates the short-term impact of the coronavirus outbreak on 21 leading stock market indices in major affected countries including Japan, Korea, Singapore, the USA, Germany, Italy, and the UK etc. The consequences of infectious disease are considerable and have been directly affecting stock markets worldwide. Using an event study method

CONCLUSION – There has been a major impact on the stock market index of the countries. The news of the virus had brought the world to a standstill. Many industries lost a lot of cash, the stock market of most of the countries crashed. They have taken February as an event study. There has been a massive impact on the short term implications of the virus on the stock market.

TOPIC 15 - Coronavirus: Impact on Stock Prices and Growth Expectations

AUTHOR - Niels Joachim Gormsen, Ralph S J Koijen

DATE - Published: 11 September 2020

INTRODUCTION -The data collected to be analyzed includes the stock and dividend prices to bring about how future markets would change. The period is taken till June 2020.

CONCLUSION – It concludes by showing a fall in dividend from 8-14% GDP is set to fall at 2% . This shows a overall fall in the market condition leading to huge losses for the industry of all the world.

TOPIC 16- Impact of the coronavirus pandemic in 2020 on the real estate market in Russia: legal aspects

AUTHOR - Karine Avakyan* and Gennady Pratsko

DATE - 4th December 2020.

INTRODUCTION - this literature review studies the consequences that the covid-19 pandemic had on the real estate market, to understand the new technology that were used by the companies ,and to analyze the changes in the policies regarding real estate in the economy of Russia.

CONCLUSION - After analysis the reports they have concluded that every real estate company has undergone a major change in technology, there were many policies drawn up by the government to revive the real estate sector and a lot of change in the market participants from a legal perspective.

TOPIC 17 - Hybridization of valuation procedures as a medicine supporting the real estate market and sustainable land use development during the covid-19 pandemic and afterwards

AUTHOR - MałgorzataRenigier-BiłozoraSabinaŻróbekaMarekWalacikaArturJanowskib

DATE - Volume 99, December 2020, 105070

INTRODUCTION - The writers came up with the hybrid approach that is the way to reconcile the participants on the property market. Hybrid approach helps to understand the synergy in combining aspects of automated solutions and traditional components that are developed in the agile mode system creation.

CONCLUSION - The hybrid form can be treated as a cure for some symptoms of the real estate market but also as a vaccine, which should to a large stop the restrictions and chaos in real estate valuation in case of repeated infection.

TOPIC 18 - Impacts and adaptation to climate change in Malaysian real estate

AUTHOR - Shamsuddin Shahid,

DATE - Publication date: 9 January 2017

INTRODUCTION - This literature review helps to find knowledge regarding future climate changes to understand their effect on the real estate sector of Malaysia so that shareholders can take the right action to prevent the negative effects.

CONCLUSION – The report shows that the temperature in Malaysia will increase, rainfall is going to be variable and rivers discharge will rise by 40% and such environment effects would pose a risk to the properties and increase the cost. Even the government policies will increase the price of properties. .

TOPIC 19 - Flattening the Curve: Pandemic-Induced Revaluation of Urban Real Estate

AUTHOR - Arpit Gupta Vrinda Mittal Jonas Peeters

DATE - February 26, 2021

INTRODUCTION - This paper helps to evaluate and check what impact the COVID-19 Pandemic had on the real estate sector on the Urban sector. This paper documents how urban agglomeration trends have moved in the wake of the coronavirus pandemic.

CONCLUSION – This paper shows that because of the pandemic and the need to social distance many people have started moving far from urban settlements, they prefer to work from home. This has also led to the downfall of the prices of the real estate industry.

TOPIC 20 - Spillover of COVID-19: impact on the Global Economy

AUTHOR - Thankom Arun , Peterson K Ozili

DATE – 27th March , 2020.

INTRODUCTION -This research brings about how an health crisis led to economic crisis. The need to social distance , lockdowns , government polities , shutting of international border led to one of the worst economic crisis with marketing shutting down. The period taken is from the start of 2020 to March when the virus started to spread. They have taken the fiscal as well as the monetary policy into consideration.

CONCLUSION – The study finds that there was a severe impact on the economy. With the lockdown the economic activity was badly affected causing huge losses to the world economy. The opening and closing prices of the stock was changed .

3. RESEARCH DESIGN

3.1 PROBLEM STATEMENT

The Coronavirus Pandemic had a severe impact on every countries and all industries. This literature review studies the impact the pandemic had on the Indian Real estate market. The economic effect of the pandemic in the country (India) has been largely disruptive. March 2020 was when the Indian government announced a nationwide lockdown to fight the effects of the pandemic. After hearing this news, the Indian stock market crashed and the real estate sector was on the most affected sector in the country due to a liquidity crunch and slowdown. After the pandemic hitting the country it had changed the way people work, live and socialize. These changes are set to not only bring about the short-term impact in real estate but also long-term effects. The lockdown had an impact on the commercial as well as the residential sector of the Indian real estate market. Even the stock prices fell and this literature review studies the changes in the volume , liquidity and market return of the real estate index before and after the pandemic.

3.2 OBJECTIVE OF THE STUDY

This literature review has three objectives to check the impact of the pandemic on the real estate index.

Objective -1 is to determine the impact of the pandemic on volume liquidity and market return.

Objective -2 is to assess the market return of the real estate companies before and after the pandemic.

Objective -3 is to determine the impact of volume and liquidity on the market return before and after the pandemic.

3.3 SCOPE OF THE STUDY

This literature review helps to find out about the impact that the pandemic had on the real estate sector of the country. It shows how the stock price, its returns, the volume of shares being traded and the liquidity of the stock and how it was impacted because of the novel Coronavirus. The time period taken is for a period 9 month before and after the pandemic to get accurate information about the movement of the stock of these 10 real estate companies.

This gives people an idea of the devastating effects the pandemic had on the entire economy of the country and it also highlights how the market reacted to it.

3.4 VARIABLE AND OPERATION DEFINATION

The variable taken into consideration for this literature review are –

Volume – this variable measures the total quantity of shares that are traded in a day of the specific security. This helps to measure the market activity. When there is a higher number of shares traded it shows a positive effect compared to lower volume of shares traded because higher volume = more buying and selling hence higher liquidity.

Liquidity – This shows how rapidly the shares are being bought and sold. Higher liquidity is better compared to lower liquidity because stocks with lower liquidity are more difficult to buy or sell making it less attractive. For this study we have calculated liquidity by subtracting the opening price from the closing price of the stock for the day.

Market return – It is the amount of return that is provided by the stock of the company. It shows whether the stock price has risen or fallen from its yesterday's price as a percentage. The formula is $(\text{today close price} - \text{yesterday close price}) / (\text{yesterday close price}) * 100$.

3.5 HYPOTHESIS

There are three hypothesis that are taken into consideration for the three objectives

Hypothesis 1 – Null hypothesis (H₀)– There is no significant impact on the liquidity, volume and market return before and after the pandemic.

Hypothesis 2 – Null Hypothesis (H₀) – There is no significant impact before and after the pandemic as compared with the abnormal returns.

Hypothesis 3 - null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return.

3.6 METHOD OF DATA COLLECTION

The data I have collected is about the stock price movement of the 10 companies present in the real estate index of NSE (National Stock Exchange) of India. NSE is one of the leading stock exchanges owned by Government of India located in Maharashtra India. NSE was founded in the year 1992 in order to make trading more convenient and get a electronic system into the country. NSE has a market capitalization of 2.27 trillion dollars and its right now the 11th largest stock exchange in the country.

All the data for all the companies has been selected from the NSE website for the purpose of this research.

3.7 SAMPLING TYPE AND SIZE

The data collected is for a period of 9 months before and after the pandemic taking March 2020 as the event study.

Period after pandemic is 1st April 2020 – 31st December 2020

Period before pandemic is 1st June 2019 - 28th February 2020

Period for Normal return is 1st December 2018 – 31st May 2019

3.8 DATA

It is a secondary data that has been collected. The data has been collected from NSE and the daily price along with the volume of shares being traded.

3.9 STATISTICAL DESIGN

For objective -1 SPSS software has been used to conduct the paired sample T-Test to find out about the impact of the pandemic before and after the pandemic on volume liquidity and market return. The paired sample T-test has been done for all the 10 companies which are listed in the real estate index of NSE.

For objective -2 We have taken a period of 6 months prior to my event study I.e 9 months prior and post March which is the event period. The time taken to find the normal return is 6 months before the 9 months prior to the pandemic i.e. from July 2019-December 2019. The average of 6 months is taken and compared to the month wise average before and after the pandemic. After finding the abnormal return a paired sample t-test was performed to find whether or not there was a significance impact.

For objective -3 This study has compared the impact of liquidity and volume on the market return using regression analysis. Market return has been taken as the dependent variable and liquidity and volume have been taken as the independent variable. For all the 10 companies. This sample t-test shows the relevance of liquidity and volume on the market return before and after the pandemic as shown in the study.

3.10 LIMITATION OF THE STUDY

This study doesn't help in forecasting the future movements in the stock prices of the real estate companies so it doesn't help the investors to take a future call. This drawback is crucial for all individuals as every person is looking at the future and wants to predict the future happening. This is one of the major drawbacks of this study and holds value.

4. ANALYSIS AND INTERPRETATION

OBJECTIVE 1 - to determine the impact of pandemic on volume , liquidity and return (spss paired sample t test) event study monthly

COMPANIES

BRIAGDE GROUP

→ T-Test

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.2933	9	1.45258	.48419
before_liquidity	.3450	9	.82464	.27488
Pair 2 after_volume	327471.058	9	127722.659	42574.2197
before_volume	137016.351	9	46328.8414	15442.9471
Pair 3 after_return	.3378	9	.83667	.27889
before_return	-.0071	9	.46566	.15522

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	.046	.907
Pair 2 after_volume & before_volume	9	.216	.576
Pair 3 after_return & before_return	9	-.442	.234

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	-.63830	1.63733	.54578	-1.89686	.62026	-1.170	8	.276
Pair 2 after_volume - before_volume	190454.708	126085.256	42028.4186	93537.0005	287372.415	4.532	8	.002
Pair 3 after_return - before_return	.34489	1.12307	.37436	-.51838	1.20816	.921	8	.384

Null hypothesis (H0)- There is no significant impact on the liquidity , volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e P= 0.276

Volume – Null hypothesis is rejected , there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05 , i.e P=0.02

Market return – Null hypothesis stands for market return before and after the pandemic pandemic as P value is more than 0.05, i.e P= 0.384

DLF

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.0700	9	.65355	.21785
before_liquidity	.0342	9	1.16370	.38790
Pair 2 after_volume	11570584.4	9	4960113.88	1653371.29
before_volume	1251650.16	9	3132449.73	1044149.91
Pair 3 after_return	.3644	9	.45286	.15095
before_return	.0394	9	.67804	.22601

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	-.380	.313
Pair 2 after_volume & before_volume	9	-.783	.012
Pair 3 after_return & before_return	9	-.236	.540

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	-.10421	1.53596	.51199	-1.28485	1.07643	-.204	8	.844
Pair 2 after_volume - before_volume	10318934.2	7665537.23	2555179.08	4426680.71	16211187.7	4.038	8	.004
Pair 3 after_return - before_return	.32504	.90001	.30000	-.36677	1.01685	1.083	8	.310

Null hypothesis (H0)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.844 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05, i.e. P=0.04

Market return – Null hypothesis stands for market return before and after the pandemic as P value is more than 0.05, i.e. P= 0.310 therefore no significant impact.

→ T-Test

Paired Samples Statistics					
	Mean	N	Std. Deviation	Std. Error Mean	
Pair 1	after_liquidity	2.4111	9	5.37259	1.79086
	before_liquidity	-.3294	9	5.29056	1.76352
Pair 2	after_volume	1013189.70	9	671234.032	223744.677
	before_volume	306007.177	9	191675.538	63891.8459
Pair 3	after_return	.5233	9	.49196	.16399
	before_return	.0486	9	.51206	.17069

Paired Samples Correlations				
	N	Correlation	Sig.	
Pair 1	after_liquidity & before_liquidity	9	.314	.410
Pair 2	after_volume & before_volume	9	-.277	.471
Pair 3	after_return & before_return	9	.308	.421

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	after_liquidity - before_liquidity	2.74053	6.24506	2.08169	-2.05985	7.54090	1.316	8	.224
Pair 2	after_volume - before_volume	707182.520	747299.631	249099.877	132757.173	1281607.87	2.839	8	.022
Pair 3	after_return - before_return	.47477	.59099	.19700	.02050	.92905	2.410	8	.043

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.224 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05, i.e. P=0.022

Market return – Null hypothesis is rejected, there is a significant impact on the market return of the stock before and after the pandemic as P is less than 0.05, i.e. P=0.043

→ T-Test

[DataSet0]

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	after_liquidity	-.1989	9	.46737	.15579
	before_liquidity	-.3472	9	.55325	.18442
Pair 2	after_volume	3336185.46	9	2429996.80	809998.932
	before_volume	4424455.21	9	2792481.61	930827.203
Pair 3	after_return	.4933	9	1.24991	.41664
	before_return	-.2528	9	1.43103	.47701

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	after_liquidity & before_liquidity	9	.322	.398
Pair 2	after_volume & before_volume	9	-.317	.405
Pair 3	after_return & before_return	9	.181	.642

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	after_liquidity - before_liquidity	.14835	.59835	.19945	-.31159	.60828	.744	8	.478
Pair 2	after_volume - before_volume	-1088269.8	4243783.22	1414594.41	-4350330.3	2173790.80	-.769	8	.464
Pair 3	after_return - before_return	.74613	1.72158	.57386	-.57720	2.06945	1.300	8	.230

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.478 therefore no significant impact.

Volume – Null hypothesis stands for volume of shares being traded before and after the pandemic as P value is more than 0.05, i.e. P= 0.464 therefore no significant impact.

Market return – Null hypothesis stands for market return before and after the pandemic as P value is more than 0.05, i.e. P= 0.230 therefore no significant impact.

→ T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.3589	9	2.54902	.84967
before_liquidity	-.7268	9	1.73862	.57954
Pair 2 after_volume	537995.932	9	156824.029	52274.6765
before_volume	389397.319	9	148231.028	49410.3427
Pair 3 after_return	.3644	9	.44922	.14974
before_return	-.0291	9	.34396	.11465

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	.029	.940
Pair 2 after_volume & before_volume	9	-.794	.011
Pair 3 after_return & before_return	9	.414	.269

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	.36789	3.04302	1.01434	-1.97117	2.70696	.363	8	.726
Pair 2 after_volume - before_volume	148598.613	288907.319	96302.4395	-73475.211	370672.436	1.543	8	.161
Pair 3 after_return - before_return	.39351	.43852	.14617	.05643	.73059	2.692	8	.027

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.726 therefore no significant impact.

Volume – Null hypothesis stands for volume of shares being traded before and after the pandemic as P value is more than 0.05, i.e. P= 0.161 therefore no significant impact.

Market return – Null hypothesis is rejected, there is a significant impact on the market return of the stock before and after the pandemic as P is less than 0.05, i.e. P=0.027

OMAXE

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.5533	9	.82196	.27399
before_liquidity	-1.2518	9	.62739	.20913
Pair 2 after_volume	387000.411	9	557948.232	185982.744
before_volume	216861.466	9	83871.6937	27957.2312
Pair 3 after_return	-.2311	9	.91581	.30527
before_return	-.1340	9	.20720	.06907

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	.080	.839
Pair 2 after_volume & before_volume	9	.280	.466
Pair 3 after_return & before_return	9	.132	.735

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	.69842	.99360	.33120	-.06533	1.46217	2.109	8	.068
Pair 2 after_volume - before_volume	170138.945	540517.327	180172.442	-245339.45	585617.341	.944	8	.373
Pair 3 after_return - before_return	-.09712	.91194	.30398	-.79810	.60385	-.320	8	.758

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.068 therefore no significant impact.

Volume – Null hypothesis stands for volume of shares being traded before and after the pandemic as P value is more than 0.05, i.e. P= 0.373 therefore no significant impact.

Market return – Null hypothesis stands for market return before and after the pandemic as P value is more than 0.05, i.e. P= 0.758 therefore no significant impact.

→ T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity & before_liquidity	-1.2089	9	2.59589	.86530
Pair 2 after_volume & before_volume	290874.813	9	223271.759	74423.9197
Pair 3 after_return & before_return	103346.309	9	44599.9205	14866.6402
	.2656	9	.40587	.13529
	.1381	9	.24447	.08149

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	-.297	.437
Pair 2 after_volume & before_volume	9	-.259	.500
Pair 3 after_return & before_return	9	-.128	.744

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	-.78298	3.98640	1.32880	-3.84720	2.28124	-5.89	8	.572
Pair 2 after_volume - before_volume	187528.504	238757.698	79585.8993	4003.09074	371053.916	2.356	8	.046
Pair 3 after_return - before_return	.12745	.49981	.16660	-.25674	.51163	.765	8	.466

Null hypothesis (H0)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.572 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05 , i.e. P=0.046

Market return – Null hypothesis stands for market return before and after the pandemic as P value is more than 0.05, i.e. P= 0.466 therefore no significant impact.

PRESTIGE GROUP

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.5400	9	1.28725	.42908
before_liquidity	-.6233	9	2.12769	.70923
Pair 2 after_volume	740878.154	9	216072.480	72024.1599
before_volume	348005.472	9	179727.568	59909.1892
Pair 3 after_return	.2456	9	.64197	.21399
before_return	.0518	9	.62844	.20948

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	.403	.283
Pair 2 after_volume & before_volume	9	-.463	.210
Pair 3 after_return & before_return	9	.498	.172

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	.08333	1.99471	.66490	-1.44994	1.61660	.125	8	.903
Pair 2 after_volume - before_volume	392872.682	339007.743	113002.581	132288.263	653457.101	3.477	8	.008
Pair 3 after_return - before_return	.19379	.63639	.21213	-.29539	.68296	.914	8	.388

Null hypothesis (H0)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.903 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05, i.e. P=0.008

Market return – Null hypothesis stands for market return before and after the pandemic as P value is more than 0.05, i.e. P= 0.388 therefore no significant impact.

T-Test

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	.0000	9	1.97245	.65748
before_liquidity	-2.1850	9	3.30256	1.10085
Pair 2 after_volume	425732.143	9	132288.432	44096.1439
before_volume	48519683.3	9	50850593.0	16950197.7
Pair 3 after_return	.6433	9	.86990	.28997
before_return	-.4256	9	.65265	.21755

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	-.323	.396
Pair 2 after_volume & before_volume	9	.326	.392
Pair 3 after_return & before_return	9	-.262	.495

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	2.18503	4.35996	1.45332	-1.16633	5.53639	1.503	8	.171
Pair 2 after_volume - before_volume	-48093951	50807650.8	16935883.6	-87148169	-9039733.5	-2.840	8	.022
Pair 3 after_return - before_return	1.06889	1.21686	.40562	.13353	2.00425	2.635	8	.030

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.171 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05 , i.e. P=0.022

Market return – Null hypothesis is rejected, there is a significant impact on the market return of the stock before and after the pandemic as P is less than 0.05 , i.e. P=0.030

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 after_liquidity	-.0267	9	1.66462	.55487
before_liquidity	-.9965	9	2.81918	.93973
Pair 2 after_volume	616998.668	9	313932.381	104644.127
before_volume	177790.291	9	85671.0109	28557.0036
Pair 3 after_return	.3322	9	.80602	.26867
before_return	-.2129	9	.56795	.18932

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 after_liquidity & before_liquidity	9	.082	.833
Pair 2 after_volume & before_volume	9	-.480	.191
Pair 3 after_return & before_return	9	.533	.140

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 after_liquidity - before_liquidity	.96982	3.15352	1.05117	-1.45418	3.39383	.923	8	.383
Pair 2 after_volume - before_volume	439208.376	362914.226	120971.409	160247.808	718168.945	3.631	8	.007
Pair 3 after_return - before_return	.54517	.69608	.23203	.01011	1.08022	2.350	8	.047

Null hypothesis (H₀)- There is no significant impact on the liquidity, volume and market return of Brigade Ltd before and after the pandemic.

Liquidity – Null hypothesis stands for liquidity before and after the pandemic as P value is more than 0.05, i.e. P= 0.383 therefore no significant impact.

Volume – Null hypothesis is rejected, there is a significant impact on the volume of shares being traded before and after the pandemic as P is less than 0.05, i.e. P=0.007

Market return – Null hypothesis is rejected, there is a significant impact on the market return of the stock before and after the pandemic as P is less than 0.05, i.e. P=0.047

OBJECTIVE 2 –To assess the market return of real estate companies before and after the pandemic monthly, cumulative (+) abnormal returns to be determined using event study

COMPANY – SOBHA LTD

T-Test

[DataSet0]

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.0006	9	.67804	.22601
Abnomral_return_after	.6033	9	.86990	.28997

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnomral_return_after	9	-.356	.346

Paired Samples Test

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
				Paired Differences				
Pair 1 Abnormal_return_before - Abnomral_return_after	-.60393	1.27943	.42648	-1.58738	.37953	-1.416	8	.194

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands as P = 0.194 which is greater than 0.05

COMPANY – SUNTECK REALTY

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.2529	9	.56795	.18932
Abnormal_return_after	.2922	9	.80602	.26867

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.533	.140

Paired Samples Test

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
				Paired Differences				
Pair 1 Abnormal_return_before - Abnormal_return_after	-.54517	.69608	.23203	-1.08022	-.01011	-2.350	8	.047

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis is rejected as P value is less than 0.05 , Sunteck has a P value of 0.047 hence there has been a significant impact in the abnormal return before and after the pandemic.

COMPANY – BRIGADE GROUP

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.0471	9	.46566	.15522
Abnormal_return_after	.2978	9	.83667	.27889

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	-.442	.234

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.34489	1.12307	.37436	-1.20816	.51838	-.921	8	.384

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands for Brigade as P = 0.194 which is greater than 0.384

COMPANY – DLF

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.4656	9	.65265	.21755
Abnormal_return_after	.45286	9	.45286	.15095

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	-.629	.069

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.79000	1.00156	.33385	-1.55987	-.02013	-2.366	8	.046

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis is rejected as P value is less than 0.05 , DLF has a P value of 0.046 hence there has been a significant impact in the abnormal return before and after the pandemic.

COMPANY – GODREJ PROPERTIES

T-Test

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	.0086	9	Double-click to activate	.17069
Abnormal_return_after	.4833	9	.49196	.16399

Paired Samples Correlations			
	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.308	.421

Paired Samples Test								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.47477	.59099	.19700	-.92905	-.02050	-2.410	8	.043

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis is rejected as P value is less than 0.05 , GODREJ PROPERTIES has a P value of 0.043 hence there has been a significant impact in the abnormal return before and after the pandemic.

COMPANY – INDIA BULLS REAL ESTATE

T-Test

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.2	9	1.43103	.47701
Abnormal_return_after	.4533	9	1.24991	.41664

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.181	.642

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.74613	1.72158	.57386	-2.06945	.57720	-1.300	8	.230

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands as P = 0.230 which is greater than 0.05

COMPANY – OBEROI REALTY

T-Test

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.0691	9	.34396	.11465
Abnormal_return_after	.3244	9	.44922	.14974

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.414	.269

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.39351	.43852	.14617	-.73059	-.05643	-2.692	8	.027

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis is rejected as P value is less than 0.05 , OBEROI REALTY has a P value of 0.027 hence there has been a significant impact in the abnormal return before and after the pandemic.

COMPANY – OMAXE

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	-.1740	9	.20720	.06907
Abnormal_return_after	-.2711	9	.91581	.30527

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.132	.735

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	.09712	.91194	.30398	-.60385	.79810	.320	8	.758

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands as P = 0.758 which is greater than 0.05

COMPANY – PHOENIX LIMITED

T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	.0981	9	.24447	.08149
Abnormal_return_after	.2256	9	.40587	.13529

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	-.128	.744

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.12745	.49981	.16660	-.51163	.25674	-.765	8	.466

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands as P = 0.466 which is greater than 0.05

COMPANY – PRESTIGE GROUP

T-Test

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Abnormal_return_before	.0118	9	.62844	.20948
Abnormal_return_after	.2056	9	.64197	.21399

	N	Correlation	Sig.
Pair 1 Abnormal_return_before & Abnormal_return_after	9	.498	.172

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Abnormal_return_before - Abnormal_return_after	-.19379	.63639	.21213	-.68296	.29539	-.914	8	.388

Null Hypothesis (H0) – There is no significant impact before and after the pandemic as compared with the abnormal returns when P is more than 0.05

Null hypothesis stands as P = 0.388 which is greater than 0.05

OBJECTIVE 3 - To show the impact on liquidity and volume on the market return of the companies using regression analysis .

COMPANY – SOBHA LIMITED

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.28429431	0.14389218	1.97574535	0.04892623	0.00134527	0.56724336	0.00134527	0.56724336
volume	2.8666E-07	3.0762E-07	0.93187484	0.35200887	-3.182E-07	8.9156E-07	-3.182E-07	8.9156E-07
liquidity	0.26129463	0.0102267	25.5502448	0.000001	0.24118489	0.28140437	0.24118489	0.28140437

Null (h0) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity has a impact on return pre and post the pandemic as P is less than 0.05 and volume has no impact on the market return pre and post the pandemic as P is more than 0.05

COMPANY – DLF

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.0426435	0.13132986	-0.324705	0.74558685	-0.3008854	0.21559851	-0.3008854	0.21559851
volume	1.5612E-08	8.8137E-09	1.77130665	0.07732842	-1.719E-09	3.2943E-08	-1.719E-09	3.2943E-08
liquidity	0.56397845	0.01533849	36.7688313	6.257E-126	0.53381743	0.59413947	0.53381743	0.59413947

Null (h0) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity has an impact on return pre and post the pandemic as P is less than 0.05 and volume has no impact on the market return pre and post the pandemic as P is more than 0.05

COMPANY – OMAXE

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.16164723	0.1297831	1.24551833	0.21373158	-	0.4168545	-	0.4168545
volume	3.1112E-07	1.9764E-07	1.57422002	0.11629355	-7.751E-08	6.9976E-07	-7.751E-08	6.9976E-07
liquidity	0.47625386	0.03255869	14.6275487	1.5456E-38	0.41223	0.54027772	0.41223	0.54027772

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity has an impact on return pre and post the pandemic as P is less than 0.05 and volume has no impact on the market return pre and post the pandemic as P is more than 0.05

COMPANY – GODREJ PROPERTIES

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0241834	0.09570348	0.25269091	0.8006474	-0.1640076	0.21237437	-0.1640076	0.21237437
volume	1.465E-07	8.3687E-08	1.75052173	0.08085713	-1.807E-08	3.1106E-07	-1.807E-08	3.1106E-07
liquidity	0.10766439	0.002918	36.8966483	4.841E-126	0.10192644	0.11340233	0.10192644	0.11340233

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity has an impact on return pre and post the pandemic as P is less than 0.05 and volume has no impact on the market return pre and post the pandemic as P is more than 0.05

COMPANY – SUNTECK REALTY

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.09600935	0.11820724	0.81221209	0.41719219	-	0.32845162	-	0.32845162
volume	1.1622E-07	1.448E-07	0.80261041	0.42271518	-1.685E-07	4.0096E-07	-1.685E-07	4.0096E-07
liquidity	0.28698308	0.01101969	26.0427441	1.1085E-85	0.265314	0.30865217	0.265314	0.30865217

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity has an impact on return pre and post the pandemic as P is less than 0.05 and volume has no impact on the market return pre and post the pandemic as P is more than 0.05

COMPANY – OBEROI REALTY

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.2047026	0.11440911	-1.7892156	0.07439792	-	0.02027108	-	0.02027108
volume	7.8907E-07	1.8162E-07	4.34472119	1.8037E-05	4.3194E-07	1.1462E-06	4.3194E-07	1.1462E-06
liquidity	0.19356912	0.0060638	31.9221089	2.515E-108	0.1816453	0.20549295	0.1816453	0.20549295

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity and volume have an impact on return pre and post the pandemic as P is less than 0.05

COMPANY – INDIABULLS REAL ESTATE

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.128897	0.17620562	-0.7315148	0.46492783	-0.4753871	0.21759305	-0.4753871	0.21759305
volume	1.2936E-07	3.5572E-08	3.63647658	0.00031557	5.9408E-08	1.9931E-07	5.9408E-08	1.9931E-07
liquidity	1.25757349	0.05224921	24.0687549	1.0503E-77	1.15483084	1.36031615	1.15483084	1.36031615

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity and volume have an impact on return pre and post the pandemic as P is less than 0.05

COMPANY – BRIGADE GROUP

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.1821543	0.16785435	-1.0851926	0.27854289	-0.5122225	0.14791385	-0.5122225	0.14791385
volume	1.0931E-06	4.105E-07	2.6627854	0.00808805	2.8587E-07	1.9003E-06	2.8587E-07	1.9003E-06
liquidity	0.42442177	0.02671974	15.8842024	1.092E-43	0.37188017	0.47696336	0.37188017	0.47696336

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity and volume have an impact on return pre and post the pandemic as P is less than 0.05

COMPANY – PHOENIX LIMITED

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.33484761	0.07558171	4.43027294	1.2413E-05	0.18622402	0.4834712	0.18622402	0.4834712
volume	-4.925E-07	1.1037E-07	-4.4625167	1.0765E-05	-7.096E-07	-2.755E-07	-7.096E-07	-2.755E-07
liquidity	0.14224279	0.00390546	36.421495	2.086E-124	0.1345631	0.14992247	0.1345631	0.14992247

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity and volume have an impact on return pre and post the pandemic as P is less than 0.05

COMPANY - PRESTIGE LIMITED

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.0463775	0.13606865	-0.340839	0.73341821	-0.3139424	0.22118736	-0.3139424	0.22118736
volume	6.2117E-07	1.7846E-07	3.48074544	0.00055972	2.7025E-07	9.7209E-07	2.7025E-07	9.7209E-07
liquidity	0.33344833	0.0095224	35.0172727	1.66E-119	0.31472353	0.35217313	0.31472353	0.35217313

Null (h₀) - hypothesis there is no significant impact of volume and liquidity on market return this will be rejected if - p is less than .05

Liquidity and volume have an impact on return pre and post the pandemic as P is less than 0.05

5. SUMMARY AND FINDINGS

OBJECTIVE -1

Is to determine the impact of the pandemic on volume liquidity and market return using SPSS paired sample T-test an event study.

COMPANY NAME	VOLUME	LIQUIDITY	MARKET RETURN
BRIGADE	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
DLF	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
GODREJ PROPERTIES	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	SIGNIFICANE IMPACT
INDIA-BULL REAL EST	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
OBEROI REALTY	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	SIGNIFICANE IMPACT
OMAXE LTD	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
PHOENIX LTD	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
PRESTIGE LTD	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT
SOBHA LTD	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	SIGNIFICANE IMPACT
SUNTECK LTD	SIGNIFICANE IMPACT	NO SIGNIFICANE IMPACT	SIGNIFICANE IMPACT

This analysis shows that volume of shares traded has had the most significance impact because of the pandemic. The volume of 7 out of 10 real estate companies have been impacted.

Liquidity has had no significance impact pre and post the lockdown which was because of the COVID-19 pandemic. All the 10 companies have shown no significance impact on their liquidity as shown above .

There has been a significant impact on the market return for a few companies pre and post the pandemic. 4 out of 10 companies have shown a significant impact in their market return.

OBJECTIVE -2

Is to assess the market return of the real estate companies before and after the pandemic using cumulative abnormal returns.

COMPANY NAME	ABNORMAL RETURN
BRIGADE	NO SIGNIFICANT IMPACT
DLF	SIGNIFICANT IMPACT
GODREJ PROPERTIES	SIGNIFICANT IMPACT
INDIA-BULL REAL EST	NO SIGNIFICANT IMPACT
OBEROI REALTY	SIGNIFICANT IMPACT
OMAXE LTD	NO SIGNIFICANT IMPACT
PHOENIX LTD	NO SIGNIFICANT IMPACT
PRESTIGE LTD	NO SIGNIFICANT IMPACT
SOBHA LTD	NO SIGNIFICANT IMPACT
SUNTECK LTD	SIGNIFICANT IMPACT

Abnormal returns = (Actual return – Normal return) , the above table shows that 4 companies had a significant impact abnormal return but the other 6 don't. Which draws up on the conclusion that there hasn't been a significance impact in the abnormal returns in the real estate index.

OBJECTIVE -3

Is to determine the impact of volume and liquidity on the market return before and after the pandemic using daily regression for a period of 9 months before and after the pandemic

COMPANY NAME	VOLUME	LIQUIDITY
SOBHA	NO IMPACT	IMPACT
DLF	NO IMPACT	IMPACT
OMAXE	NO IMPACT	IMPACT
GODREJ	NO IMPACT	IMPACT
SUNTECK	NO IMPACT	IMPACT
OBEROI	IMPACT	IMPACT
IBREALEST	IMPACT	IMPACT
BRIGADE	IMPACT	IMPACT
PHOENIX	IMPACT	IMPACT
PRESTIGE	IMPACT	IMPACT

The above findings show that Liquidity has had a impact on the market return of the 10 real estate companies whereas volume has had a impact only on 5 companies. Both factors have had an impact on the market return but liquidity has had more impact when compared to volume.

6. CONCLUSION

This Research studies the impact the Pandemic had on the Real Estate sector of India and how the stock of such companies responded in terms of volume, liquidity and market return. The pandemic had a severe impact on the stock price of all industries and the real estate sector was hit hard by the novel COVID-19. The real estate has from the quarter ending September 2020 has started to show signs of revival in terms of the stock price and market return.

NSE real estate index has also started to show signs of revival but its still a long way to go to get back to growing. Commercial offices as well as residential houses have already started to recover.

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