

Analyzing the effects of Demonetization and RERA on the Indian real estate business

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ABSTRACT:

The sudden ban on Rs 500 and Rs 1000 currency notes on November 8th, 2017, resulted in limited or no cash in the market, leading to a fall in housing demand across India in the short term. This paper aims to determine whether the prominent real estate corporations were significantly affected by this event. I selected three well-known real estate companies in India and analyzed their financial figures to assess any changes in their quarterly profits before and after demonetization. However, my findings indicate that the short-term impact of demonetization on the large corporate real estate sector is insignificant, based on the sample study conducted.

Key words: Demonetization, Industrialist, Real estate sector, Quarterly profit etc.

Introduction:

8th November 2016 was the date when the Hon'ble Prime Minister of India Shri Narendra Modi announced the stripping a currency unit of Rs. 500 & Rs. 1000 of its status as legal tender. He declared that such step has been taken to obliterate black Money and flush out fake currency in circulation in the economy. Accepting this decision by all sectors of economy had a wide impact in short term or long term. Right from agriculturist to an industrialist, a retailer to a producer, a self-employed to a Govt, employee, every rural to urban people had to go through many difficulties in day-to-day life as well as in future concerns. But within a span of 60-75 days, the situation was under control with demonetization. Demonetization has been implemented twice -1946 and 1978 – in the past. In 1946, the currency notes of Rs 1,000 and Rs 10,000 were removed from circulation. The ban really did not have much impact, as the currency of such higher denomination was not accessible to the common people. Rs 500 and Rs 1000 notes were introduced in 1934 and after four years in 1938, Rs 10,000 notes were introduced. In 1978, the then Prime Minister of India Morarji Desai announced the currency ban taking Rs 1000, Rs 5000 and Rs 10,000 out of circulation. The sole aim of the ban was to curb black money generation in the country. The highest denomination notes ever printed by

the Reserve Bank of India was the Rs 10,000 note in 1938 and again in 1954. But these notes were demonetized in January 1946 and again in January 1978, according to RBI data.[9]

The Real Estate Regulation and Development Act (RERA) is a law passed by the Indian Parliament in 2016 to safeguard the interests of homebuyers and promote responsible investment in the real estate sector. The Act consists of 92 sections and was passed by the Rajya Sabha on March 10, 2016, and by the Lok Sabha on March 15, 2016. The Act came into effect on May 1, 2016, with 69 notified classes. The main objective of the Act is to address the rise in complaints against developers, promoters, and real estate agents, primarily related to delayed possession and irresponsible behavior by sellers. The Act mandates the registration of real estate projects in the state and seeks to resolve disputes between developers and buyers while ensuring timely completion of projects. The Act also provides for fast-track tribunals to resolve disputes within 60 days. All construction plans, except those with eight apartments or a total area of up to 5,000 square feet, must be registered with the Real Estate Regulatory Authority. The Act also mandates the provision of 70% of customer payments to be kept in a separate bank account for construction purposes only. Additionally, buyers are required to provide project-related information such as layout, contractor details, acceptance, and project duration.

Real Estate Sector in India

In India, real estate sector is one of the most globally recognized sectors and it is the second largest employer after agriculture. The real estate sector comprises of four sub sectors - housing, retail, hospitality, and commercial. Due to corporate environment this sector is growing well due to demand for office space as well as urban and semi-urban accommodations. The construction industry ranks third among the 14 major sectors in terms of direct, indirect and induced effects in all sectors of the economy

It is also expected that this sector will incur more non-resident Indian (NRI) investments in both the short term and the long term.

Market Size

The Indian real estate market has shown significant growth in recent years, with a projected market size of US\$ 180 billion by 2020. The housing sector alone contributes 5-6% to the country's Gross Domestic Product (GDP). Between FY 2008 and 2022, the market size of the real estate sector is expected to increase at a Compound Annual Growth Rate (CAGR) of 11.2%, indicating a positive trend. Retail, hospitality, and commercial real estate are also growing significantly, meeting the infrastructure needs of India's expanding economy. In 2016, private equity investments in real estate

reached a nine-year high of nearly Rs 40,000 crore (US\$ 6.01 billion), reflecting the growing interest of investors in this sector. Among Indian cities, Mumbai is considered the best for commercial real estate investment, with expected returns of 12-19% in the next five years. Bengaluru and Delhi-National Capital Region (NCR) follow closely in terms of commercial real estate investment potential. [8] The Indian government's policies such as RERA and the Smart Cities Mission have further boosted the growth of the real estate sector in India. The government's focus on affordable housing and the introduction of Real Estate Investment Trusts (REITs) have also attracted more investment in the sector. These factors, coupled with the country's overall economic growth, make the Indian real estate market an attractive investment opportunity for both domestic and international investors.

Objective of the study

- Impact of demonetization on big corporates of Real Estate Sector of India.
- To what extent the corporate of real estate products has reduction in their income from operations and Profit after tax due to demonetization.
- To find the result of comparative analysis of sample corporates of real estate companies in short period of Quarters before and after demonetization.
- To assess how the RERA implementation has affected the profit from operating revenue of selected real estate enterprises
- To forecast the prospective profits of selected real estate companies for the next nine years

Hypotheses

- HO- There is no significance difference between pre and post RERA revenue from operation of DLF Ltd.
- HA- There is significance difference between pre and post RERA Revenue from operation of DLF Ltd.

Research Methodology

The paper is based upon Analytical research with use of secondary data. Three renowned companies have been selected namely DLF Ltd.; Ltd; Godrej Properties Ltd; Shobha Ltd. From the websites of the above-mentioned companies the figures of Income after operations and annual profits have been taken for the period of 2013-2022 to determine the trend as well as assess the growth analysis. Further, the quarterly profit has been classified and T-test has been applied to find the impact of Demonetization.

Analysis and Interpretation

Overview of the selected corporate:

1. **DLF Ltd:** DLF has nearly 70 years of track record of sustained growth, customer satisfaction, and innovation. DLF's primary business is development of residential, commercial and retail

properties. The company has a unique business model with earnings arising from development and rentals. Its exposure across businesses, segments and geographies, mitigates any down-cycles in the market. From developing 22 major colonies in Delhi, DLF is now present across 15 states-24 cities in India.

The development business of DLF includes Homes and Commercial Complexes

The Homes business caters to 3 segments of the residential market - Super Luxury, Luxury and Premium. The product offering involves a wide range of products including condominiums, duplexes, row houses and apartments of varying sizes. DLF is credited with pioneering the concept of developing commercial complexes in the vicinity of residential areas. DLF has successfully launched commercial complexes and is in the process of marking its presence across various locations in India. [11]

2. Godrej Properties

Godrej Properties development combines a 120-year legacy of excellence and trust with a commitment to cutting-edge design and technology. Godrej Properties is currently developing residential, commercial and township projects spread across approximately 13.5 million square meters (138 million square feet) in 12 cities.[12]

Year	DLF	GODREJ PROPERTIES	SHOBHA Ltd
2013-14	777284	117921.41	21734
2014-15	829804	184309.08	24406
2015-16	764873	225206.63	19909
2016-17	925986	170834.79	22847

1. Shobha Ltd.

With three decades of glorious experience in creating interiors of palaces and masterpieces in the Middle-East, Mr. P.N.C. Menon founded SOBHA in 1995 with a clear vision to transform the way people perceive quality. Today, SOBHA, a Rs. 26 billion company, is the most trusted brand and only backward integrated real estate player in the country.

Headquartered in Bangalore, SOBHA is primarily focused on residential and contractual projects. The Company's residential projects include presidential apartments, villas, row houses, luxury and super luxury apartments, plotted development and aspirational homes replete with

world-class amenities. In all its residential projects, the company lays a strong emphasis on environmental management, water harvesting and high safety standards. On the contracts side, the Company has constructed a wide variety of structures for corporates including corporate offices, convention centers, software development blocks, multiplex theatres, hostel facilities, guest houses, food courts, restaurants, research centers and club houses. Some of SOBHA's prestigious corporate clients include Infosys, Taj Group, Dell, HP, Timken, Biocon, Institute of Public Enterprises (IPE), Bosch, Hotel Leela Ventures and others [13].

Classification and Tabulation of Data

The financial figures of DLF Ltd, Godrej Properties and Shobha Ltd. has been classified for analysis, as follows:

"Table: Record of Revenue from Operations (in Rs. Crore)"

Year	DLF	GODREJ PROPERTIES	SHOBHA Ltd
2013-14	2,289.67	512.38	2,101.81
2014-15	2,923.58	403.46	2,371.66
2015-16	3,530.70	239.48	1,799.34
2016-17	3,512.33	879.39	2,221.56
2017-18	2,854.32	806.13	2,616.84
2018-19	3,090.00	1,405.47	3,395.42
2019-20	2,225.08	2,059.65	3,796.78
2020-21	3,893.48	543.74	2,138.79
2021-22	3,795.32	1,473.45	2,748.31

"Table: Pre and Post RERA Impact on Revenue from Operations of DLF Ltd."

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre	2606.6250	2	448.24206	316.95500
	Post	3521.5150	2	12.98955	9.18500

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Pre & Post	2	-1.000	.000

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	Pre – Post	-914.89	461.23	326.14	-5058.89	3229.11	-2.805	1	.218

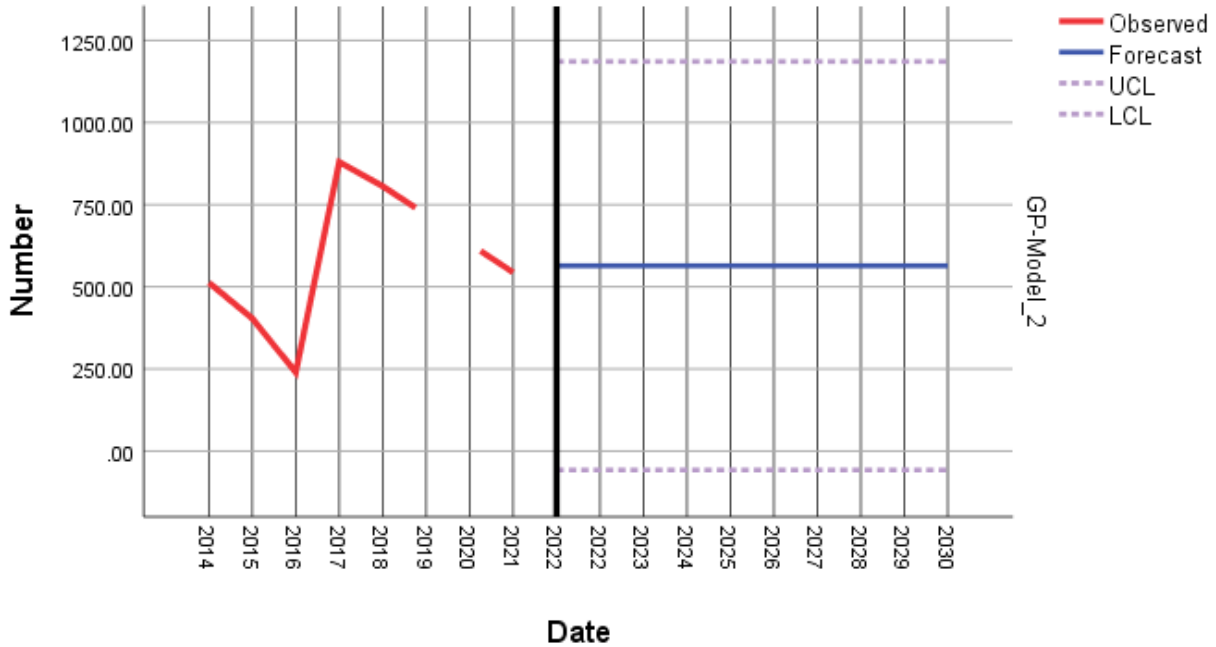
Table: Profit Forecast for the Next 10 Years (2022-2031)

Model Fit												
Fit Statistic	Mean	SE	Minimum	Maximum	Percentile							
					5	10	25	50	75	90	95	
Stationary R-squared	-2.220E-16	.	-	-	-	-	-	-	-	-2.220E-16	-2.220E-16	-2.220E-16
R-squared	-2.220E-16	.	-	-	-	-	-	-	-	-2.220E-16	-2.220E-16	-2.220E-16
RMSE	241.768	.	241.768	241.768	241.768	241.768	241.768	241.768	241.768	241.768	241.768	241.768
MAPE	42.513	.	42.513	42.513	42.513	42.513	42.513	42.513	42.513	42.513	42.513	42.513
MaxAPE	135.551	.	135.551	135.551	135.551	135.551	135.551	135.551	135.551	135.551	135.551	135.551
MAE	185.776	.	185.776	185.776	185.776	185.776	185.776	185.776	185.776	185.776	185.776	185.776
MaxAE	324.617	.	324.617	324.617	324.617	324.617	324.617	324.617	324.617	324.617	324.617	324.617
Normalized BIC	11.275	.	11.275	11.275	11.275	11.275	11.275	11.275	11.275	11.275	11.275	11.275

Model Statistics						
Model	Number of Predictors	Model Fit statistics	Ljung-Box Q(18)			Number of Outliers
		Stationary R-squared	Statistics	DF	Sig.	
GP-Model 2	0	-2.220E-16	.	0	.	0

Forecast											
Model		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
GP-Model_2	Forecast	564.10	564.10	564.10	564.10	564.10	564.10	564.10	564.10	564.10	564.10
	UCL	1185.58	1185.58	1185.58	1185.58	1185.58	1185.58	1185.58	1185.58	1185.58	1185.58
	LCL	-57.39	-57.39	-57.39	-57.39	-57.39	-57.39	-57.39	-57.39	-57.39	-57.39

For each model, forecasts start after the last non-missing in the range of the requested estimation period, and end at the last period for which non-missing values of all the predictors are available or at the end date of the requested forecast period, whichever is earlier.



The above figure shows that the annual revenue from operations has decreased in Godrej properties by the end of 2016-17, after demonetization, but not in case of DLF Ltd and Shobha Ltd.

		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
DLF	Diff		633.91	607.12	-18.37	658.01	235.68	864.92	1668.4	-98.16
	%Change	-	+27.68%	+20.76	-0.52	-18.73	8.2	-27.99	74.98	-2.52
GP	Diff	-	-108.92	-	639.91	-73.17	599.34	654.18	-	929.71
	%Change	-	-21.26	-40.64	267	-8.32	74.3	46.5	-73.6	171
SL	Diff	-	269.85	-	422.22	395.28	778.58	401.36	-	609.52
	%Change	-	12.84	-24.13	23.47	17.8	29.75	11.82	-43.7	28.5

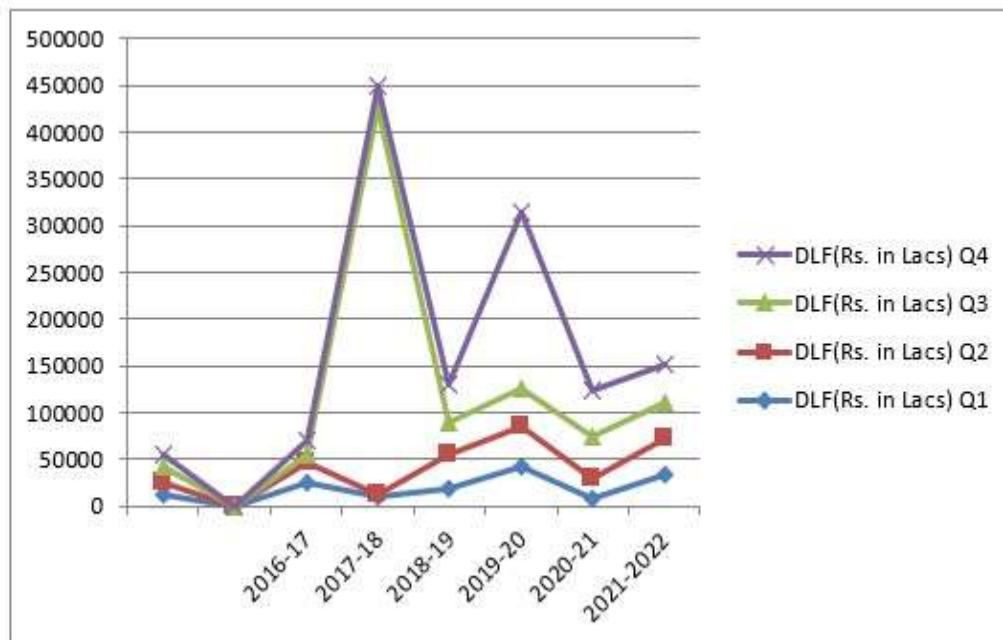
Profit after tax (Rs. in Lacs):

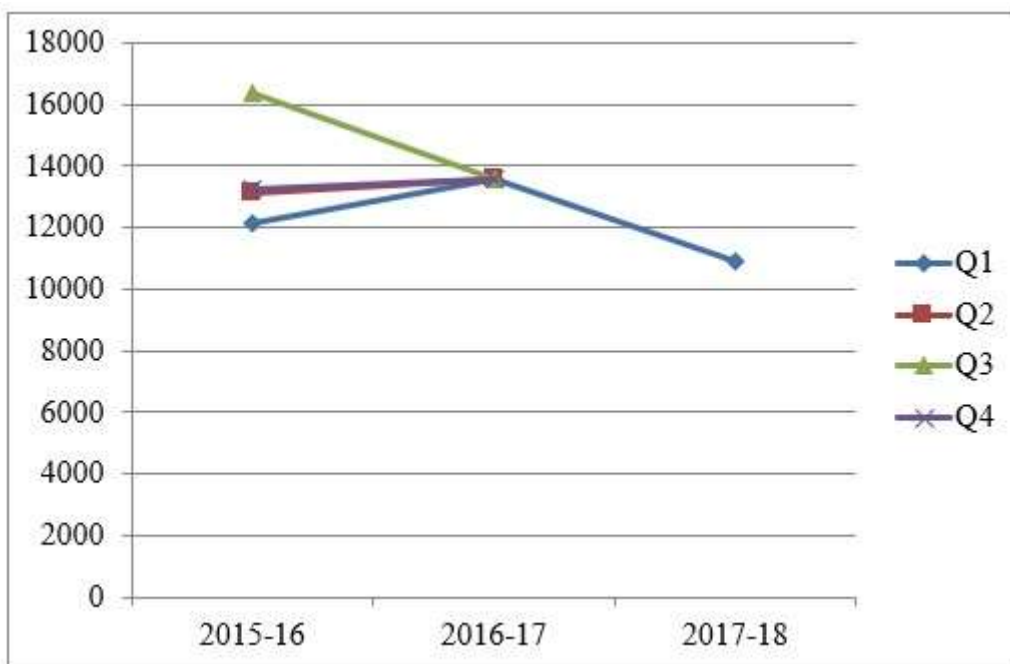
The above figure shows that the annual profit has decreased by 28.5% in Godrej properties by the end of 2016-17, after demonetization, but not in case of DLF Ltd and Shobha Ltd the profit increased by 1.7% and 7.9% respectively.

Profit Record (for Quarters in 2015-16 and 2016-17 and 2017-18)

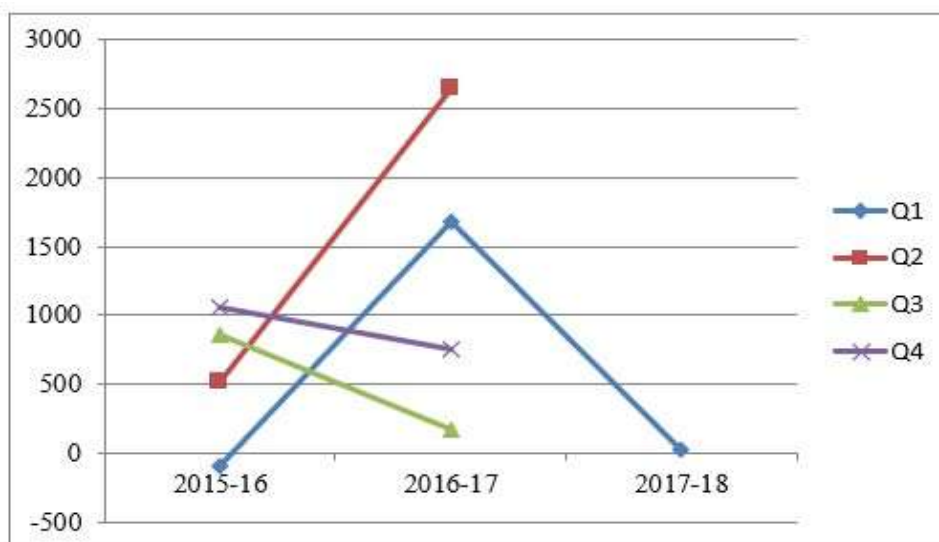
Year	DLF (Rs. in Lacs)				GODREJ PROPERTIES (Rs in Lacs)				SHOBHA Ltd (Rs. in lacs)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2015-16	12155	13150	16395	13239	5558	12359	7167	3858	4380	3880	3140	2840
2016-17	26127	20002	9831	13563	4096	1453	7442	6259	3670	3510	3260	4660
2017-18	11023	1788	412102	23972	2337	1928	2594	14151	4700	5020	5380	6540
2018-19	18506	37430	34320	40827	1079	2630	511	18842	5340	6020	6950	11320
2019-20	41265	44179	41264	1,86714	12992	1749	6958	9515	9090	6680	7370	5060
2020-21	7259	23120	45010	47741	1943	692	819	6618	6600	1700	2090	1860
2021-22	33871	37871	38150	41396	5655	8912	12531	25424	1140	4540	3320	2590

Comparative Analysis of Quarter Profits of DLF Ltd

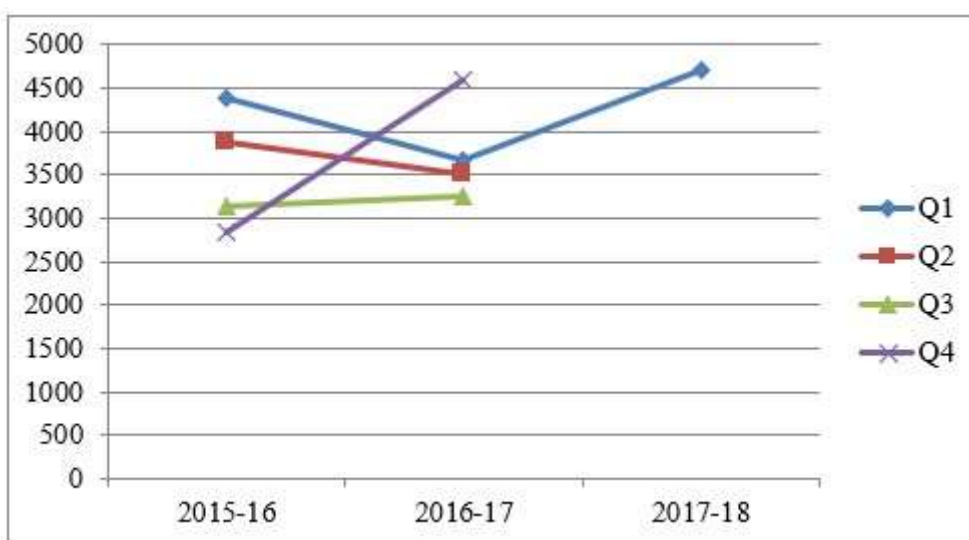
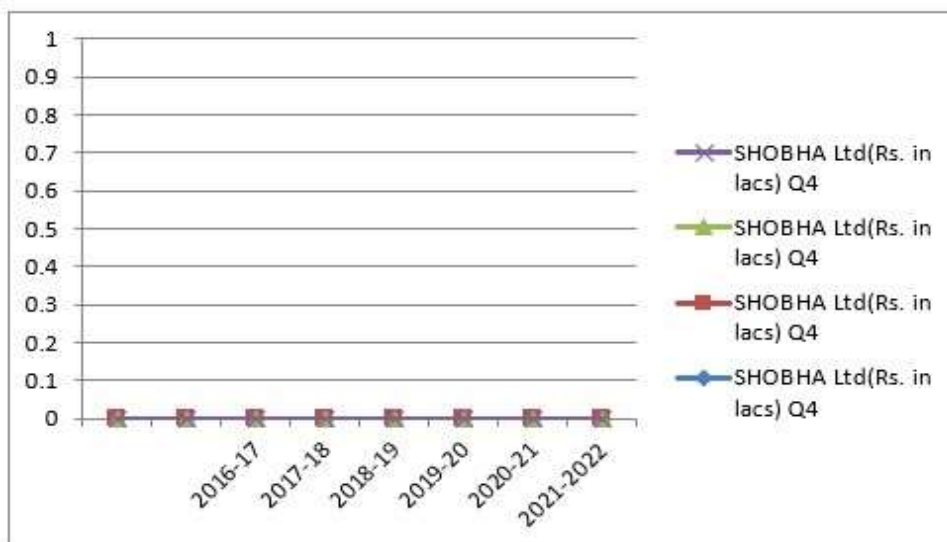




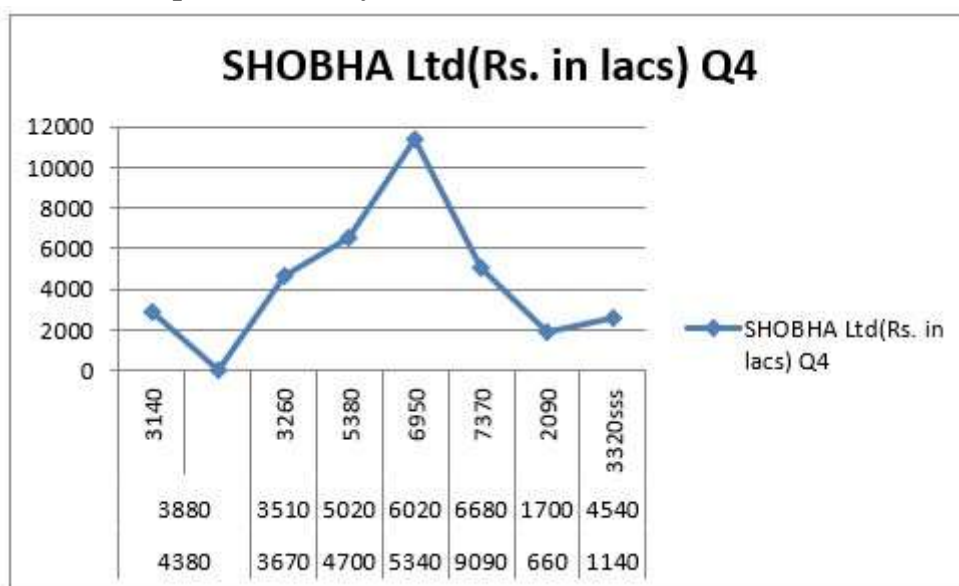
Comparative Analysis of Quarter Profits of Godrej Properties



Comparative Analysis of Quarter Profits of Shobha Ltd.



Comparative Analysis of Quarter Profits of Shobha Ltd.



Application of T-test:

1. **T-test** at 5% significance level has been applied to calculate the impact of demonetization on profit of 2nd quarter (pre -demonetization) and 4th quarter (post -demonetization) of 2016-17 in all three sample companies.

Difference Scores Calculations

Treatment 1

N1: 3

$$df1 = N - 1 = 3 - 1 = 2$$

M1: 8321.67

SS1: 206760904.67

$$s21 = SS1/(N - 1) = 206760904.67/(3-1) = 103380452.33$$

Treatment 2

N2: 3

$$df2 = N - 1 = 3 - 1 = 2$$

M2: 8140.67

SS2: 45478688.67

$$s22 = SS2/(N - 1) = 45478688.67/(3-1) = 22739344.33$$

T-value Calculation

$$s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((2/4) * 103380452.33) + ((2/4) * 22739344.33) = 63059898.33$$

$$s2M1 = s2p/N1 = 63059898.33/3 = 21019966.11$$

$$s2M2 = s2p/N2 = 63059898.33/3 = 21019966.11$$

$$t = (M1 - M2)/\sqrt{(s2M1 + s2M2)} = 181/\sqrt{42039932.22} = 0.02792$$

The t-value is 0.03. The p-value is .489533. The result is not significant at p < .05.

2. **T-test** at 5% significance level has been applied to calculate the impact of demonetization on profit of 4th quarter in financial year 2015-16 and profit of 4th quarter in financial year 2016-17 in all three sample companies.

Difference Scores Calculations

Treatment 1

N1: 3

$$df1 = N - 1 = 3 - 1 = 2$$

M1: 6645.67

SS1: 65726228.67

$$s21 = SS1/(N - 1) = 65726228.67/(3-1) = 32863114.33$$

Treatment 2

N2: 3

$$df2 = N - 1 = 3 - 1 = 2$$

M2: 8140.67

SS2: 45478688.67

$$s22 = SS2/(N - 1) = 45478688.67/(3-1) = 22739344.33$$

T-value Calculation

$$s^2p = ((df1/(df1 + df2)) * s^2_1) + ((df2/(df2 + df2)) * s^2_2) = ((2/4) * 32863114.33) + ((2/4) * 22739344.33) = 27801229.33$$

$$s^2M1 = s^2p/N1 = 27801229.33/3 = 9267076.44$$

$$s^2M2 = s^2p/N2 = 27801229.33/3 = 9267076.44$$

$$t = (M1 - M2)/\sqrt{(s^2M1 + s^2M2)} = -1495/\sqrt{18534152.89} = -0.35$$

The t-value is -0.34726. The p-value is .372949. The result is not significant at p < .05.

Conclusion

With the application of percentage change in rate of annual profit and application of T-test on profit of quarters, before and after demonetization, the result concludes that the changes are insignificant. So we can say that the impact of demonetization in short period is not significant in big corporate of real estate sector. It can be assumed that in medium and smaller real estate companies the impact may be more significant due to absence of liquidity.

“In five years of demonetization, we have seen more transparency and credibility returning to the sector. Credible and long-standing players are witnessing a market where brand, product and project completion timelines are determining the growth and success of various projects and developers. Demonetization along with other policy disruptions like RERA and GST have positively impacted the real estate sector in the markets, making it a more structured and professional playing field for all.

References

- [1] Rao DK, Mukherjee DS, Kumar DS, Sengupta DP, Tandon S, Nayudu SH. Demonetization: Impact on the Economy, NIPFP Working 2016; 182:1-17
- [2] Mohd MS. Demonetization of Currency Notes: Significance and Challenges. International Journal of Innovative Research and Advanced Studies. 2016; 3(12). ISSN: 2394-4404:60-64.
- [3] Sunita. Demonetization of Indian Rupee against US \$: A Historical Perspective. Discovery. 2014; 23(78):108- 112.
- [4] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2869172 retrieved as on 2016, 11:11am.
- [5] Sunil, Department of Commerce Maharshi Dayanand University, Rohtak, Haryana, India International Journal of Applied Research 2017; 3(2): 04-08
- [6] K. Veerakumar. A STUDY ON PEOPLE IMPACT ON DEMONETIZATION Assistant International Journal of Interdisciplinary Research in Arts and Humanities (IJIRAH) ISSN (Online): 2456 - 3145 (www.dvpublication.com) Volume 2, Issue 1, 2017
- [7] Dr. Anjana Bedi. DEMONETISATION IN INDIA EPRA International Journal of Economic and Business Review Volume - 5, Issue- 1, January 2017
- [8] <https://www.ibef.org/industry/real-estate-india.aspx>
- [9] <http://www.freepressjournal.in/featured-blog/indias-history-with-demonetisation-from-1946-to-2016/988212>

- [10] <https://www.ncaacademy.com/know-all-about-history-of-indian-currency-demonetisation/>
- [11] <http://www.dlf.in/overview.aspx> 12.
<https://www.godrejproperties.com/aboutus/companyprofile>
- [12] <http://www.sobha.com/aboutus.php>