

A Study on the Impact of Demonetization and GST on the Realty Index of India

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Abstract: The subject of the study is to analyze the impact of demonetization and GST on the realty index of India. The study focuses on the abnormal returns of the top 6 companies and the index itself to determine whether these events have significantly impacted the sector in the short, medium and long run. Hereby, it was found that demonetization had a very nominal impact on the real estate sector and most market participants made a recovery in the long run whereas GST had no impact on the industry.

Keywords: Demonetization, GST, Realty sector, Abnormal returns, Event study.

1. Introduction

Demonetization is the act of removing a particular currency as legal tender. It was announced in India on 8th November, 2016 applicable to the 500 and 1000 rupee notes. Demonetization means that the economy can now move towards a digital economy. Also, it acts as barrier for corruption as large amounts of undeclared cash are used by many political parties and terrorists to meet requirements. Demonetization led to crash of SENSEX and NIFTY50 by 6% the following day. The fall of rupee was also sharp, against the dollar.

Goods and service tax is one indirect tax for the whole nation. It aims to unite the Indian market. The Indian parliament passed this law on March 29th, 2017. GST has many benefits like it removes the cascading tax affect, increases threshold for registration, acts a composition scheme for small business, it has a much simpler process to file and less compliances, it acts as a regulator of the unorganized sector. Consumers would now have to pay more tax on the goods they buy. Most daily consumables are now levying the same or a slightly higher tax rate. The procedure for filing indirect tax returns has been simplified largely. Non billed transactions have decreased largely, thus disposing of black money in large amounts in the markets. The real estate market in India is expected to reach US\$ 1 trillion by 2030. It will contribute 13% of the country's GDP by 2025. In 2019, India's real estate stock is expected to reach 3.7 million square feet, with an additional 200 million square feet over the year.

The effect of money demonetization on real estate is much higher than any other industry, as realty sector was known for its black money dealings. Prior demonetization huge sum of almost every real estate transaction was made in black, due to which people could easily spend their black money without any

fear. After demonetization most sellers refused to accept black money and demanded only white money, due to this the supply of overall money went extremely low thus decreasing demand prices of real estate properties. Biggest losers due to this move were the ones who bought the property with the aim of making quick and short term profits.

Under GST, a single tax rate of 12% applies to properties under construction whereas GST does not apply to properties completed or ready to sell, as was the case in previous legislation. Buyers will therefore benefit from a reduction in GST prices. Since multiple taxes are subsumed and due to the availability of input tax credit, construction costs of developers are significantly reduced under GST. It will also be an added benefit to reduce transportation costs. And developers can see marginal improvements.

Real estate industry is infamously known for its excessive black money dealings as stated in the articles of Kushwaha (2018), due to this real estate was bound to take one of the biggest hits after the announcement of demonetization as the main objective of demonetization was to eliminate black unaccounted money. Also, after demonetization there was shortage of currency in the economy, this automatically reduced the demand for real estate in the short run which is why many companies like DLF, Prestige were forced to sell their properties below expected price so as to meet their targets. Anyone who dealt with real estate before demonetization announcement will know that a huge proportion was usually accepted in black currency. Demonetization therefore is helping reviving the corrupt industry. Both these announcements in theory should lead to an increasing GDP by increasing accounted income. But one question which has lived in the minds of all Indians is whether these two implementations are a positive change or is it just going to lead to a falling economy.

2. Review of literature

Somani (2018), Conducted research on the impact of Demonetization and GST on the banking industry share prices of India. The findings of this research are found to be that most of the companies did not impact the industry share prices majorly. Even if there was a minor impact, it was short term and temporary, share prices are found to bounce back.

Thiruvadantai (2017), this research attempts to explore the actual effect on the Indian financial market of demonetization.

This research is based solely on secondary data. The findings of this research show that the economy took a big hit due to this decision and cut off all major transactions due to cash crisis. Vij, (2018) studies the immediate impacts of demonetization on the Indian economy, it analyses problems the study of this findings show significant impact of announcements on entire Indian economy, but he says actual impacts of demonetization will be felt only 2-3 years later.

Kushwaha (2018), addressed the effect on the Indian economy of demonetization. Only observation and documentary assessment are the basis of the entire research. The real estate had an impact as it involves cash based transaction which is unaccounted of. The findings of this study show how and by how much real estate industry was impacted due to demonetization.

Paliniswami (2018), gives an insight about the meaning, objectives and impact of demonetization and GST in respect to India. He took three sectors up for analysis: the manufacturing, agriculture and service sector. The study of this findings show that the announcements majorly affected the manufacturing and agricultural industry in the short and long term. The impact on service sector however was to be short lived.

(Rajaprasa, 2019), The research's main objective is to understand the effect of demonetization on Indian real estate firms' output during the post-demonetization era compared to the pre-demonetization period. From the study results it is evident that there is a significant difference in the companies' performance.

(Bhagwat, 2019), This paper clarifies the effect of such demonetization on the country's credit quality, investment and activity level in the real estate sector. Demonetization was found not to have a substantial effect on the real estate sector mainly because the current slump in the sector covering the last three years.

3. Research design

A. Hypothesis

1) Hypothesis for demonetization announcement

H_0 = There is no significant impact of demonetization announcement on abnormal returns of selected companies.

H_1 = There is significant impact of demonetization announcement on abnormal returns of selected companies.

B. Hypothesis for GST announcements

H_0 = There is no significant impact of GST announcement on abnormal returns of selected companies.

H_1 = There is significant impact of GST announcement on abnormal returns of selected companies.

C. Research Methodology

The research is an analytical research which aims to prove the short term and long term impact of Demonetization and GST on BSE realty index of India.

D. Data

Sources of data: Closing prices of selected companies under BSEREAITY are collected from BSE website.

Period of study: To study the short and long term effects of demonetization and GST on the realty index of BSE India, this study will be conducted in three phases, all data will be collected for the number of days mentioned below respectively.

1) Demonetization

180 trading days: 15th February, 2016 to 8th November, 2016 for pre announcement and for post announcement research will be based on trading days from 8th November, 2016 to 27th July, 2017. That is 180 days prior and posts the event.

365 trading days: 20th May, 2015 to 8th November, 2016 for pre announcement and for post announcement research will be based on trading days from 8th November, 2016 to 26th April, 2018. That is 365 days prior and posts the event.

Till 31st October, 2019: 12th November, 2013 to 8th November, 2016 for pre announcement and for post announcement research will be based on trading days from 8th November, 2016 to 31st October, 2019. That is 736 days prior and posts the event.

2) GST

180 trading days: 10th October, 2016 to 1st July, 2017 for pre announcement and for post announcement research will be based on trading days from 1st July, 2017 to 21st March, 2018. That is 180 days prior and posts the event.

365 trading days: 8th January, 2016 to 1st July, 2017 for pre announcement and for post announcement research will be based on trading days from 1st July, 2017 to 20th December, 2018. That is 365 days prior and posts the event.

Till 31st October, 2019: 8th March, 2015 to 1st July, 2017 for pre announcement and for post announcement research will be based on trading days from 1st July, 2017 to 31st October, 2019. That is 736 days prior and posts the event.

Companies selected & basis of selection: Companies have been selected on the basis of descending order of market capitalization of the companies in the index. Top 6 companies have been chosen out of the 10 in the index. The companies chosen are:

- DLF
- Sunteck Realty Ltd.
- Oberoi Realty
- Phoenix mills
- Prestige Estates Projects Ltd.
- Godrej Properties

E. Analytical tools- paired sample t-test

The data is analyzed by running a paired sample t-test. The paired sample t-test will be run on the abnormal returns (AR) factor as that truly analysis the gain or loss after the announcement of such events.

A sample t-test will be run on abnormal returns earned by the company pre and post the announcement dates of demonetization and GST. It is predicted by the following inputs

in this study:

Abnormal return= Closing price return- expected return or normal return

Closing price return= LN (current day value/ previous day value)*100

Expected return or normal return= INTERCEPT (Close price return, Index return) + SLOPE (Close price return, Index return).

4. Objectives of the study

- To study the impact of GST on abnormal returns of selected companies of realty index of India.
- To study the impact of Demonetization on abnormal returns of selected companies of realty index of India.

5. Analysis and interpretation

Demonetization:

Table 1
Paired sample t-test of DLF for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	-0.11	0.912
	Post-demonetization		
12-month period	Pre- demonetization	-1.439	0.151
	Post-demonetization		
736-day period	Pre- demonetization	-0.54	0.589
	Post-demonetization		

Interpretation: H₀ is accepted in all time periods and we can conclusively say that demonetization has not impacted DLF significantly.

Table 2
Paired sample t-test of Sunteck realty for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	3.435	0.001
	Post-demonetization		
12-month period	Pre- demonetization	2.569	0.011
	Post-demonetization		
736-day period	Pre- demonetization	3.861	0
	Post-demonetization		

Interpretation: H₀ is rejected in all time periods and we can conclusively say that demonetization has impacted Sunteck realty significantly.

Table 3
Paired sample t-test of Oberoi realty for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	3.706	0
	Post-demonetization		
12-month period	Pre- demonetization	2.618	0.009
	Post-demonetization		
736-day period	Pre- demonetization	1.309	0.191
	Post-demonetization		

Interpretation: H₀ is rejected in the 6-months and 12-months' time periods and accepted in the 736-day time period we can conclusively say that demonetization has impacted Oberoi Realty in the Short and medium run but not in the long run significantly.

Table 4
Paired sample t-test of Phoenix Mills for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	0.655	0.514
	Post-demonetization		
12-month period	Pre- demonetization	0.004	0.997
	Post-demonetization		
736-day period	Pre- demonetization	-0.337	0.736
	Post-demonetization		

Interpretation: H₀ is accepted in all time periods and we can conclusively say that demonetization has not impacted Phoenix Mills significantly.

Table 5
Paired sample t-test of Prestige estate properties for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	-0.82	0.414
	Post-demonetization		
12-month period	Pre- demonetization	-0.654	0.513
	Post-demonetization		
736-day period	Pre- demonetization	-0.981	0.327
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that demonetization has not impacted Prestige estate properties significantly.

Table 6
Paired sample t-test of Godrej properties for demonetization time period

Timeline	Event	t	Sig.(2-tailed)
6-month period	Pre- demonetization	2.437	0.016
	Post-demonetization		
12-month period	Pre- demonetization	0.576	0.565
	Post-demonetization		
736-day period	Pre- demonetization	1.478	0.14
	Post-demonetization		

Interpretation: H_0 is rejected in the 6-months' time period and accepted in the 12-month and 736-day time period we can conclusively say that demonetization has impacted Godrej Properties in the Short run but not in the medium and long run significantly.

Table 7
Paired sample t-test of Realty index of India for demonetization time period

Timeline	Event	t	sig.(2-tailed)
6-month period	Pre- demonetization	-0.14	0.989
	Post-demonetization		
12-month period	Pre- demonetization	-1.071	0.285
	Post-demonetization		
736-day period	Pre- demonetization	-0.2	0.842
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that demonetization has not impacted the realty index of India significantly.

GST:

Table 8
Paired sample t-test of DLF for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	0.194	0.847
	Post-demonetization		
12-month period	Pre- demonetization	-1.129	0.26
	Post-demonetization		
575-day period	Pre- demonetization	-1.1718	0.086
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted DLF significantly.

Table 9
Paired sample t-test of Sunteck realty for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	0.932	0.352
	Post-demonetization		
12-month period	Pre- demonetization	-0.515	0.607
	Post-demonetization		
575-day period	Pre- demonetization	-0.246	0.806
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted Sunteck realty significantly.

Table 10
Paired sample t-test of Oberoi realty for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	-0.433	0.666
	Post-demonetization		
12-month period	Pre- demonetization	1.1016	0.31
	Post-demonetization		
575-day period	Pre- demonetization	-0.108	0.914
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted Oberoi realty significantly.

Table 11
Paired sample t-test of Phoenix Mills for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	-0.206	0.837
	Post-demonetization		
12-month period	Pre- demonetization	-1.1278	0.202
	Post-demonetization		
575-day period	Pre- demonetization	-1.457	0.146
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted Phoenix Mills significantly.

Table 12
Paired sample t-test of Prestige estate properties for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	0.176	0.861
	Post-demonetization		
12-month period	Pre- demonetization	-7.382	0
	Post-demonetization		
575-day period	Pre- demonetization	-0.648	0.517
	Post-demonetization		

Interpretation: H_0 is rejected in the 12-months' time period and accepted in the 6-month and 736-day time period we can conclusively say that GST has impacted Prestige Estate Properties in the medium run but not in the short and long run significantly.

Table 13
Paired sample t-test of Godrej properties for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	0.133	0.91
	Post-demonetization		
12-month period	Pre- demonetization	1.767	0.078
	Post-demonetization		
575-day period	Pre- demonetization	0.683	0.495
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted Godrej Properties significantly.

Table 14
Paired sample t-test of the Realty index of India for GST time period

Timeline	Event	T	Sig.(2-tailed)
6-month period	Pre- demonetization	0.295	0.769
	Post-demonetization		
12-month period	Pre- demonetization	0.295	0.768
	Post-demonetization		
575-day period	Pre- demonetization	-0.669	0.504
	Post-demonetization		

Interpretation: H_0 is accepted in all time periods and we can conclusively say that GST has not impacted the Realty index of India.

6. Conclusion

Impact of demonetization: From the above the findings show that most of the companies have not been impacted significantly due to demonetization except, Sunteck which has been impacted in the short, medium and long term. Oberoi has been impacted in the short and medium term but makes a recovery in the long term. Godrej showed an impact only in the short run but recovers soon in the medium run. This therefore shows why the realty index as a whole as not significantly impacted. Here, short run refers to the 6- month period, medium run refers to the 12-month period and long run refers to the 736-day period.

Impact of GST: From the above the findings show that most of the companies have not been impacted significantly due to GST except, prestige in the medium run period. Therefore, it is safe to say that GST's impact is almost nil in relation to the realty sector. Here, short run refers to the 6- month period, medium run refers to the 12-month period and long run refers to the 575-day period.

Out of the 42 paired sample t-tests conducted only 7 showed a significant impact. The findings of the research may be mainly due to the fact that these big market players usually only dealt with players who paid 100% in white. These companies have been known to be strict and rigid in terms of not accepting black money. This may be one of the reasons why they were not impacted as much as the private market players.

7. Managerial Implications

After the above the analysis it is found that most companies have not significantly been impacted by the two events in the three timelines, except very few. Even these few do not show any continuous pattern. But to the ones who have been affected with high volatility or significant impact due to the events, the following policies could be helpful:

- Following a strict practice of 100% white money

billed transactions.

- Pulling price of real estate slightly low in order to correct situation of deflation created in the market.
- Temporarily slow down operations and wait for predicted recovery of the industry.

Further, following policies could be considered by the government in order to safeguard interest of market participants:

- Regulation, standardization of real estate prices.
- Strengthening fines and penalties for parties involved in such black money and non-billed transactions.
- Indirect tax reliefs to the majorly affected industries at least till the revival of such industries.

References

- [1] K. Himanshu, K. Ashwani, and A. Zainab, "Impact of Demonetisation on Indian Economy: A Critical Study," in *International Journal of Management Studies*, vol. 5, no. 2, pp. 25-31, 2018.
- [2] A. Aravind, S. Manikandan, and P. Syamsundar, "Impact of demonetization & goods and services tax in agriculture sector, manufacturing sector and service sector with special reference to India," in *Sixth International Conference on "Contemporary Issues in Agriculture, Engineering, Information Technology, Life Sciences, Social Sciences and Humanities"*, Australia, January 2018.
- [3] A. Somani, "A Study on the Impact of Demonetization and GST on the Indian Banking Sector," in *International journal of innovative science and research technology*, vol. 4, no. 3, pp. 670-677, March 2019.
- [4] T. Srinivas, and B. Karan, "Evaluating the impact of Demonetization on the Indian Economy," April 2019.
- [5] Vij, and Dimpal, "Demonetization: Effects on Indian Economy," in *International Research journal of Business and management*, vol. 11, pp. 92-101, 2018.
- [6] A. Bhagwat, S. Masani, H. Sharma, and G. Iyer, "Effects of Demonetization on the Real Estate Sector," in *Pacific Business Review International*, vol. 10, no. 7, pp. 85-94, January 2018.
- [7] S. V. S. R. Prasad, "Measuring the Efficiency of Indian Real Estate Firms During the Pre and Post-Demonetization Period by Adopting Data Envelopment Analysis," in *Baltic Journal of Real Estate Economics and Construction Management*, vol. 7, pp. 98-109, 2019.