

How has RERA impacted the Capital Structure of Listed Real Estate Developers in India?

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Introduction

The capital structure is the way in which a company finances its general operations and its growth using different sources of funds. The debt is presented in the form of long-term bond or note issuances, while the equity is classified as ordinary shares, preferred shares or retained earnings. Short-term debt, such as working capital requirements and current borrowings, are also considered part of the capital structure. The ratio of a company's short and long-term debt is considered when analysing the capital structure. When analysts refer to the capital structure, they most likely refer to the debt / capital (D / E) ratio of a company, which provides information about a company's risk. In general, a company that is heavily financed by debt has a more aggressive capital structure and, therefore, presents a greater risk to investors. This risk, however, may be the main source of the company's growth.

The debt / equity ratio (D / E) is calculated by dividing the total financial liabilities of a company by stockholders' equity. These numbers are available in the balance sheet of a company's financial statements. The relationship is used to evaluate the financial leverage of a company. The debt / equity ratio is also known as a risk or leverage ratio.

Formula

$$D/E \text{ Ratio} = \text{Total Debt} / \text{Shareholder's Equity}$$

At the same time, leverage is an important tool that companies use to grow, and many companies find sustainable uses for debt. If a company has a high debt equity ratio (the definition of high will vary by industry), this is an indication that the company must commit a significant portion of its cash flow in operations to the payment of principal and interest on this debt.

Research Methodology

This study uses a longitudinal research design. The nature of the research is descriptive. Listed Indian Real Estate Developers are the population for this study. The financial data of the real estate developers has been collected from F.Y. 2010-11 to F.Y. 2017-18. The time period has been selected such that the Pre and Post RERA market valuation of the developers can be studied. After reviewing the available literature, the impact of RERA on Debt/Equity Ratio of real estate developers has been identified as the research problem. Financial data has been collected from annual reports of respective real estate companies and from the website of Bombay Stock Exchange. Convenience sampling has been used in this study. The sample chosen is of 10 largest publicly listed Indian developers by market capitalisation. Our sample size is 10 and time period under observation is 8 years (7 years Pre-RERA and 1 year Post-RERA).

The data collected was checked for normality. For hypothesis testing of non-normal data, a non-parametric test known as Wilcoxon Signed Rank's Test was applied. For hypothesis testing of normal data, the student's paired samples t-test was used.

Objectives

The objective of the study is to gauge the impact of RERA on Debt ratio of real estate developers.

Hypothesis

H₀₁: The mean Debt/Equity Ratio for the real estate companies will not significantly change for Indian real estate developers after implementation of RERA; $\mu_{\text{PRE RERA}} = \mu_{\text{POST RERA}}$

H_{A1}: The mean Debt/Equity Ratio for the real estate companies will significantly change for Indian real estate developers after implementation of RERA; $\mu_{\text{PRE RERA}} \neq \mu_{\text{POST RERA}}$

Data Analysis and Interpretation

Ratio Analysis

The Debt/Equity ratio was calculated using the balance sheet and income statement of the real estate developers. The sample mean was calculated Pre-RERA (2010-11 to 2016-17) and Post RERA (2017-18). The results of Ratio Analysis are summarised in Table 1.

Table 1: Results of Ratio Analysis

S. No.	Parameter	Pre-RERA Sample Mean	Post-RERA Sample Mean	Change	Impact on Debt Management
1	Debt-Equity Ratio	0.772	0.744	-0.028	Positive

On observing the results of ratio analysis, we find that Debt/Equity Ratio has been positively impacted and reduced.

Normality Test

The distribution of difference in means of P/E ratio Pre and Post Rera were checked for normality by using Shapiro Wilk Test of Normality. The Null Hypothesis is Paired differences are normal. The results are summarised in Table 2.

Table 2: Results of Shapiro Wilk Test of Normality

Tests of Normality				
Paired Difference	Shapiro-Wilk			Null hypothesis
	Statistic	df	Sig.	
Debt-Equity Ratio	.921	10	.364	Fail to reject

It can be observed from the results that paired differences of Debt/Equity ratio follow a normal distribution. Thus, for testing of null hypothesis for Debt/Equity ratio, the student's paired samples t-test was used.

Hypothesis Testing

A. Student's t-Test

One of the key assumptions of this test is that data must be parametric in nature for the results to be valid. Thus, this test can only be applied on the paired differences of ratios whose distribution has been found normal by normality test.

		Paired Differences			t	df	Sig. (2-tailed)	Sig(1-tailed)	Null Hypothesis
		Mean	Std. Deviation	Std. Error Mean					
Pair	Pre RERA Debt-Equity Ratio – Post RERA Debt-Equity Ratio	0.03	0.44	0.14	0.20	9.00	0.85	0.42	Fail To Reject

Results

As per the result of Students t-test, the difference in means of Pre RERA-Post RERA is identified which is statistically insignificant for Debt-Equity Ratio. The positive difference shows that Debt-Equity Ratio has on average slightly decreased (but not significantly) post implementation of RERA. It means that the developers have changed their target capital structure post-RERA and have reduced their dependence on debt by paying off their existing debt. It also indicates that the developers are attempting to create a safety margin against economic downturn. This represents that the impact of RERA is favourable on this ratio considering the weak economic sentiments.

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Appendix: Ratio Calculations

Table 3: Ratio Analysis- Debt-Equity ratio

year	Company	DEB-EQUITY=Total debt/ Shareholder's capital											Pre Rera Mean	Post Rera	
		2011	2012	2013	2014	2015	2016	2017	2018						
Debt	DLF	21,65,216	20,22,291	19,07,725	16,58,332	19,77,000	23,02,209	26,66,333	15,04,697	20,99,872	15,04,697	20,99,872	15,04,697	20,99,872	15,04,697
	godrej properties	91,687	1,93,324	1,66,329	2,42,903	3,13,369	3,11,746	3,97,648	3,70,286	2,45,286	3,70,286	2,45,286	3,70,286	2,45,286	3,70,286
	Oberoi Realty	-	-	-	7,606	70,573	45,651	83,846	94,450	29,668	94,450	29,668	94,450	29,668	94,450
	Prestige Estate	1,28,460	1,75,837	2,42,002	2,80,549	3,27,660	5,23,640	5,64,100	6,90,780	3,20,321	6,90,780	3,20,321	6,90,780	3,20,321	6,90,780
	Indiabulls Real	3,53,746	1,88,872	1,82,800	2,87,892	8,08,183	7,64,959	7,99,974	3,95,807	4,83,775	3,95,807	4,83,775	3,95,807	4,83,775	3,95,807
	Sunteck Realty	40,230	48,819	50,827	59,203	1,06,433	1,23,389	94,374	51,809	74,754	51,809	74,754	51,809	74,754	51,809
	Sobha	32,719	22,178	1,35,357	1,37,854	1,94,367	2,09,780	2,17,952	2,30,877	1,35,744	2,30,877	1,35,744	2,30,877	1,35,744	2,30,877
	Omaxe	78,209	70,302	68,908	64,753	69,894	90,381	91,886	1,22,633	76,333	1,22,633	76,333	1,22,633	76,333	1,22,633
	Brigade Ent	71,555	69,345	86,956	73,400	84,971	1,67,692	1,81,705	2,87,805	1,05,089	2,87,805	1,05,089	2,87,805	1,05,089	2,87,805
	Puravankara	80,672	99,650	1,62,347	1,40,358	1,52,125	1,92,929	99,764	81,583	1,32,549	81,583	1,32,549	81,583	1,32,549	81,583
Equity	DLF	26,33,210	27,23,591	27,12,566	28,99,177	24,27,080	24,06,908	24,57,283	35,31,044	26,08,545	35,31,044	26,08,545	35,31,044	26,08,545	35,31,044
	godrej properties	91,159	1,44,264	1,42,895	1,79,340	1,73,393	1,76,482	2,00,373	2,24,029	1,58,272	2,24,029	1,58,272	2,24,029	1,58,272	2,24,029
	Oberoi Realty	3,34,757	3,73,415	4,16,213	4,39,639	4,74,074	5,34,113	5,72,596	6,09,237	4,49,258	6,09,237	4,49,258	6,09,237	4,49,258	6,09,237
	Prestige Estate	2,11,423	2,15,099	2,74,227	2,97,919	3,71,250	4,19,990	4,46,400	4,73,270	3,19,473	4,73,270	3,19,473	4,73,270	3,19,473	4,73,270
	Indiabulls Real	9,17,275	7,17,753	6,77,889	6,87,394	3,12,743	3,99,326	4,04,299	7,07,916	5,88,097	7,07,916	5,88,097	7,07,916	5,88,097	7,07,916
	Sunteck Realty	40,044	40,199	40,035	54,775	1,56,643	1,59,847	1,79,534	2,63,035	95,868	2,63,035	95,868	2,63,035	95,868	2,63,035
	Sobha	1,85,078	1,99,975	2,13,662	2,29,136	2,50,963	2,56,481	2,64,448	2,76,993	2,28,535	2,76,993	2,28,535	2,76,993	2,28,535	2,76,993
	Omaxe	1,67,776	1,77,045	1,85,860	2,17,863	1,96,506	2,03,044	2,11,862	2,19,685	1,94,279	2,19,685	1,94,279	2,19,685	1,94,279	2,19,685
	Brigade Ent	1,12,455	1,16,181	1,21,210	1,27,222	1,45,763	1,53,781	1,69,491	2,28,702	1,35,158	2,28,702	1,35,158	2,28,702	1,35,158	2,28,702
	Puravankara	1,57,638	1,68,731	1,89,951	2,17,329	2,24,425	2,28,333	2,36,624	2,39,317	2,03,290	2,39,317	2,03,290	2,39,317	2,03,290	2,39,317
Debt-Equity Ratio	DLF	0.82	0.74	0.70	0.57	0.81	0.96	1.09	0.43	0.81	0.43	0.81	0.43	0.81	0.43
	godrej properties	1.01	1.34	1.16	1.35	1.81	1.77	1.98	1.65	1.49	1.65	1.49	1.65	1.49	1.65
	Oberoi Realty	0.00	0.00	0.00	0.02	0.15	0.09	0.15	0.16	0.06	0.16	0.06	0.16	0.06	0.16
	Prestige Estate	0.61	0.82	0.88	0.94	0.88	1.25	1.26	1.46	0.95	1.46	0.95	1.46	0.95	1.46
	Indiabulls Real	0.39	0.26	0.27	0.42	2.58	1.92	1.98	0.56	1.12	0.56	1.12	0.56	1.12	0.56
	Sunteck Realty	1.00	1.21	1.27	1.08	0.68	0.77	0.53	0.20	0.94	0.20	0.94	0.20	0.94	0.20
	Sobha	0.18	0.11	0.63	0.60	0.77	0.82	0.82	0.83	0.56	0.83	0.56	0.83	0.56	0.83
	Omaxe	0.47	0.40	0.37	0.30	0.36	0.45	0.43	0.56	0.40	0.56	0.40	0.56	0.40	0.56
	Brigade Ent	0.64	0.60	0.72	0.58	0.58	1.09	1.07	1.26	0.75	1.26	0.75	1.26	0.75	1.26
	Puravankara	0.51	0.59	0.85	0.65	0.68	0.84	0.42	0.34	0.65	0.34	0.65	0.34	0.65	0.34