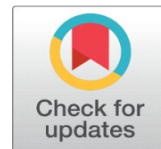


## DETERMINANTS OF WORKING CAPITAL IN INDIAN REALTY SECTOR

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### ABSTRACT

Working capital is an important aspect which ensures the sufficient fund to maintain the firm's day-to-day operations and creates maximum value to the firm. As working capital may have a major impact on profitability, understanding the firm-specific determinants of working capital is important. This study has been conducted on the firm-specific determinants of working capital in the Indian Realty Sector. The independent variables employed in the study includes firm size, asset tangibility, leverage, profitability, sales growth, and fixed assets growth, while the dependent variables employed in the study are inventory, receivables, payables, and cash conversion days. The study is based on the sample of thirteen companies of Indian Realty Sector, of which five were large-cap, five were mid-cap, and three are small-cap companies. The study was conducted for the period of 2011-20. The study employed fixed-effects panel regression to analyse the significance of the firm-specific determinants of working capital in the Indian Realty Sector.

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### 1. INTRODUCTION

Working Capital has been very significant aspect of late as the major changes in the economy made the accessibility of the external finance difficult (PwC, 2012). The working capital is vital for the business organizations in these changing conditions, which helps in maintaining sound solvency and liquidity position. It can be said that better usage of working capital leads to encashment of competitive advantage in the market in the form of investments. The large body of research shows the importance of determinants of working capital management and the benefits of effective utilization of working capital. The identification of the significant determination of working capital is crucial process as these determinants vary with the sectors.

For any business to start they need not only fixed assets but also the working capital. So, the firm needs to find out the adequate amount of working to carry out the routine activities of buying raw material, meeting up of day-to-day payments etc.

#### Significance of Working Capital.

**Business Solvency:** The firm can maintain the solvency with the adequate working capital in the business with uninterrupted flow of production.

**Goodwill:** The timely payment of expenses such as tax and discount can be made with the adequate working capital which allows the firm to maintain the goodwill.



**Convenient Loans:** With the adequate working capital and liquid assets the firm can easily fetch the fund from the banks and financial institutions with better terms and conditions and sufficient investments in working capital can be used as good collateral for the unsecured fund.

**Cash Discounts:** If the firm maintains the adequate working capital can get the benefits like availing the cash discounts and can reduce the cost of purchase. Larger the purchase higher will be the cost saving in terms of discounts.

**Favorable Market Conditions:** Favorable market conditions can be explored with the adequate working capital. It is one of the best situations for the business firm as they can buy the raw material in bulk at a low price and save money for other productive activities.

**Flexibility:** Adequate working capital gives the flexibility to face the crisis situation of the business such as depression as there will be more pressure on working capital in those periods.

**Regular and Quick Return:** Generally, investors look for regular and quick return on their investment. So, maintaining working capital sufficiently will help the firm in paying the return to their investors on time without delay.

### Literature Review

One of the main themes in the working capital literature is that of the determinants of working capital. Several studies have contributed to this theme, suggesting several important determinants of working capital. Some of the recent studies are reviewed in the following.

[Gill \(2011\)](#) found that working capital cycle, size of the firm, growth, and return on assets had significant impact on the working capital in the service industry. [Abadi and Abadi \(2013\)](#) found that cash flow, ROA, and cash cycle had a significant positive impact on working capital, while firm size and leverage had a significant negative impact on working capital. [Salawu and Alao \(2014\)](#) found that the significant determinants of working capital were sales growth, firm size, leverage, and GDP; they found that asset tangibility and trade cycle also determined working capital but were insignificant. [Atseye et al. \(2015\)](#) identified the internal/firm-level factors, which determine working capital as age, firm size, growth, risk, cash flows, and market share, and external factors such as rate of interest, tax rate, GDP, and so on. [Oseifuah \(2016\)](#) found that sales growth, capex, and debtors were major firm-specific factors affecting working capital and inflation, interest rate, economic growth, exchange rate were the external factors affecting the working capital management. [Desriwendi and Prijadi \(2018\)](#) found that the capex, dividend, and growth showed a significant positive impact on the cashholdings.

Several important determinants of working capital have been studied in the literature, including internal/firm-specific determinants such as firm size, asset tangibility, leverage, capex, operating cash flows, growth, profitability, and so on, and external determinants such as inflation, interest rates, tax rates, GDP, and so on. This paper examines the firm-specific determinants of working capital for the Indian Realty Sector.

## 2. METHODOLOGY

This paper examines the firm-specific determinants of working capital in the Indian Realty Sector. The firm-specific variables considered for the study include firm size (logarithm of total assets), asset tangibility (fixed assets to total assets), leverage (debt-equity ratio), profitability (return on assets), sales growth rate, and

fixed assets growth rate, while the dependent variables considered for the study include inventory days, receivables days, payables days, and cash conversation days. The sample includes thirteen companies of the Indian Realty Sector, of which five were large-cap, five were mid-cap, and three were small-cap companies. The study period was 2011-20. The study uses fixed-effects panel regression to analyse the significance of the firm-specific determinants of working capital in the Indian Realty Sector. The model is given by

$$y_{it} = a + b_1 \ln(TA)_{i,t} + b_2 (FA/TA)_{i,t} + b_3 (D/E)_{i,t} + b_4 ROA_{i,t} + b_4 (S_{i,t}/S_{i,t-1} - 1) + b_5 (FA_{i,t}/FA_{i,t-1} - 1) + u_i + v_t + \epsilon_{i,t}$$

where the terms represent each of the determinants (firm size, asset tangibility, leverage, profitability, sales growth rate, and fixed assets growth rate, respectively),  $y_t$  represents the dependent variables (viz. inventory days, receivables days, payables days, and cash conversation days),  $u_i$  represents the  $i$ th firm fixed effect and  $v_t$  represents the  $t$ th year fixed effect.

### 3. DISCUSSION

**Table 1 Descriptive Statistics of Independent Variables**

Company		ln (TA)	Asset Tangibility	Debt to Equity	Return on Assets	Sales growth	FA growth
DLF Ltd	Mean	11.0064	0.248	0.852	2.974	-0.0252	-0.0146
	Std. Dev.	0.08175	0.13637	0.1939	3.18539	0.20765	0.41158
	Skewness	-2.134	-0.755	-0.011	1.755	0.722	-0.053
	Kurtosis	5.265	-1.526	0.226	2.296	-0.895	3.124
Godrej Properties Ltd	Mean	8.361	0.018	1.545	4.465	0.3207	0.1951
	Std. Dev.	0.65835	0.00632	0.43254	2.05932	0.34038	0.31016
	Skewness	-1.123	0.132	-0.113	0.818	0.092	0.706
	Kurtosis	-0.093	0.179	-1.028	-0.681	-0.141	-0.348
HDC Ltd	Mean	9.6865	0.018	0.41	2.95	-0.1089	0.2168
	Std. Dev.	0.21982	0.01033	0.22076	2.65913	0.28462	1.05147
	Skewness	-1.994	1.241	1.725	0.747	-0.226	2.905
	Kurtosis	3.419	0.946	3.372	-0.992	-1.75	8.604
Oberoi Realty Ltd	Mean	8.5342	0.139	0.104	9.784	0.1767	0.1678
	Std. Dev.	0.53061	0.07752	0.08462	5.57244	0.3629	0.58818
	Skewness	-0.782	-0.66	0.951	0.947	0.632	0.937
	Kurtosis	0.02	-1.501	0.756	-0.111	0.019	3.634
NCC Ltd	Mean	9.291	0.238	1.278	1.315	0.0698	0.1209
	Std. Dev.	0.20064	0.06426	0.46341	1.26342	0.11635	0.34976
	Skewness	-1.827	0.097	-0.277	1.089	0.815	1.087
	Kurtosis	2.779	-1.875	-0.793	-0.162	-0.07	0.073
Phoenix Ltd	Mean	8.4928	0.538	1.252	2.409	0.4694	0.3801
	Std. Dev.	0.45159	0.23318	0.65415	0.77184	0.68518	0.38885
	Skewness	-0.486	-0.361	-0.168	-0.403	1.931	1.434
	Kurtosis	-1.448	-1.91	-1.618	-0.67	3.936	2.196

Determinants of Working Capital in Indian Realty Sector

Prestige Group	Mean	9.0358	0.243	1.271	3.177	0.2798	0.1449
	Std. Dev.	0.63767	0.12175	0.44167	1.00488	0.36236	0.38087
	Skewness	-0.159	-0.915	0.748	-0.274	-0.176	-1.41
	Kurtosis	-1.438	-1.172	-0.249	-1.433	-0.218	4.033
Suntech Realty Ltd	Mean	7.8044	0.031	0.843	2.586	0.3356	0.8127
	Std. Dev.	0.62799	0.02378	0.33217	2.67707	1.12968	2.72916
	Skewness	-1.787	1.835	-0.496	0.637	2.06	2.98
	Kurtosis	3.631	4.346	-0.336	-1.532	4.677	8.913
Pourvankara Ltd	Mean	8.3689	0.024	0.806	3.506	0.154	0.0815
	Std. Dev.	0.37114	0.00699	0.13737	1.61331	0.21214	0.24231
	Skewness	-0.225	-0.78	-0.382	0.12	0.541	-1.035
	Kurtosis	-1.582	-0.146	-0.721	-1.153	-0.665	2.67
Shobha Ltd	Mean	8.6102	0.083	0.858	3.627	0.1343	0.0642
	Std. Dev.	0.35475	0.02669	0.3412	1.2618	0.15449	0.23969
	Skewness	0.382	-0.095	2.585	-0.431	-1.359	0.837
	Kurtosis	-1.59	-1.509	7.461	-1.451	2.426	3.916
Brigade Group	Mean	8.1929	0.213	1.053	2.673	0.2233	0.3759
	Std. Dev.	0.48037	0.14758	0.38216	0.90168	0.24262	0.53836
	Skewness	0.408	0.746	0.405	2.219	-0.14	-1.105
	Kurtosis	-1.214	-1.354	-1.578	5.756	-1.533	2.125
Parasvanth Developers	Mean	8.8691	0.057	1.143	0.171	-0.0928	0.1808
	Std. Dev.	0.16046	0.01889	0.39576	2.19312	0.29237	0.40984
	Skewness	-1.038	0.663	1.426	-0.611	0.629	1.933
	Kurtosis	0.027	-1.145	1.947	-0.254	-0.721	4.476
Indiabulls Real Estate	Mean	9.5743	0.02	0.856	2.4	0.2297	0.0804
	Std. Dev.	0.24118	0.00943	0.83572	3.18924	0.60805	0.49245
	Skewness	-1.043	0	1.436	3.076	1.686	0.236
	Kurtosis	0.958	-2.129	0.611	9.6	3.314	-0.687
Industry	Mean	8.9098	0.1438	0.9439	3.2336	0.1646	0.2159
	Std. Dev.	0.90183	0.17265	0.54971	3.22964	0.46144	0.87128
	Skewness	0.481	1.865	0.544	2.258	2.705	6.715
	Kurtosis	0.667	3.6	-0.161	8.456	12.711	58.237

There was considerable variation in the independent variables. firm size (logarithm of total assets) varied with a mean of 8.90 and standard deviation of 0.90. Asset tangibility varied with a mean of 14.38% and standard deviation of 17.26%. Debt-equity ratio varied with a mean of 0.94 and standard deviation of 0.54. Return on assets varied with a mean of 3.23% and standard deviation of 3.22%. Sales growth varied with a mean of 16.46% and standard deviation of 46.14%. Fixed assets growth varied with a mean of 21.59% and standard deviation of 87.12%.

**Table 2 Descriptives Study of Dependent Variables**

Company		Inventory Days	Receivable Days	Payable Days	Cash Conversion Cycle
DLF Ltd	Mean	705.082	79.127	148.584	635.625
	Std. Dev.	204.50287	14.44655	30.59716	214.99189
	Skewness	0.229	0.741	-0.275	0.201
	Kurtosis	0.106	0.071	-1.511	0.36
Godrej Properties Ltd	Mean	840.113	113.381	193.271	760.223
	Std. Dev.	156.373	144.11121	123.52452	182.72483
	Skewness	0.123	2.341	0.998	1.082
	Kurtosis	-0.987	5.416	-0.253	0.019
HDC Ltd	Mean	3,945.99	148.243	444.779	3,649.45
	Std. Dev.	2,097.12	111.52821	204.36236	2,137.53
	Skewness	0.318	0.796	1.488	0.48
	Kurtosis	-1.164	-0.713	1.526	-0.995
Oberoi Realty Ltd	Mean	677.129	27.838	37.981	666.986
	Std. Dev.	351.58684	8.63924	16.57682	356.05963
	Skewness	0.318	-0.106	0.619	0.339
	Kurtosis	-1.674	-1.035	-1.398	-1.717
NCC Ltd	Mean	103.992	104.697	92.365	116.324
	Std. Dev.	11.36313	41.03152	25.6557	23.20178
	Skewness	-0.217	1.705	1.536	1.769
	Kurtosis	-1.222	2.299	1.517	2.755
Phoenix Ltd	Mean	183.795	67.675	155.978	95.492
	Std. Dev.	122.83865	33.95587	144.72236	222.53487
	Skewness	-0.125	0.699	0.991	-1.052
	Kurtosis	-0.017	-1.257	-0.635	-0.397
Prestige Group	Mean	387.022	121.561	88.903	419.68
	Std. Dev.	76.57211	73.21503	20.83982	126.80752
	Skewness	0.906	2.171	0.49	2.008
	Kurtosis	-0.173	5.258	1.378	4.598
Suntech Realty Ltd	Mean	4,239.60	183.88	3,261.06	1,162.42
	Std. Dev.	2,504.88	182.49841	3,686.92	2,339.86
	Skewness	-0.362	1.358	0.742	-0.552
	Kurtosis	-1.583	0.913	-0.929	1.639
Pourvankara Ltd	Mean	966.046	82.238	95.518	952.766
	Std. Dev.	394.35071	9.12663	18.32943	384.72812
	Skewness	0.767	-0.562	-0.48	0.794
	Kurtosis	-0.815	-1.141	-1.02	-0.737
Shobha Ltd	Mean	452.517	60.921	105.359	408.079
	Std. Dev.	167.03882	50.03275	52.72296	175.91892
	Skewness	1.063	1.7	1.292	0.211

Determinants of Working Capital in Indian Realty Sector

	Kurtosis	-0.596	1.825	3.289	-1.286
	Mean	437.485	9.907	98.588	348.804
Brigade Group	Std. Dev.	97.51321	5.10834	25.25008	92.03281
	Skewness	2.312	1.056	-0.069	1.599
	Kurtosis	6.264	0.867	-0.739	3.869
	Mean	2,320.87	559.37	1,088.11	1,792.14
Parasvanth Developers	Std. Dev.	1,784.96	278.98303	859.89433	2,089.59
	Skewness	1.873	1.46	1.789	1.305
	Kurtosis	3.382	2.142	3.548	1.802
	Mean	1,121.10	183.405	41.705	1,262.80
Indiabulls Real Estate	Std. Dev.	579.23426	152.28165	11.72352	628.45406
	Skewness	1.723	1.793	1.103	1.299
	Kurtosis	4.021	4.375	1.568	1.783
	Mean	1,260.06	134.0187	450.1686	943.9067
	Std. Dev.	1,667.54	173.95827	1,320.39	1,376.83
Industry	Skewness	2.357	3.115	5.269	2.185
	Kurtosis	4.802	12.516	30.012	7.882

There was also considerable variation in the dependent variables. Inventory days varied with a mean of 1260 days and a standard deviation of 1667 days. Receivable days varied with a mean of 134 days and standard deviation of 173 days. Payable's days varied with a mean of 450 days and standard deviation of 1320 days. Finally, the cash conversion days varied with a mean of 943 days and a standard deviation of 1376 days.

**Table 3 Tests of Between-Subjects Effects**

Dependent Variable: Inventory Days						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	279095719.075(a)	26	10,734,450.734	16.317	0.000	
Intercept	16,243,444.071	1	16,243,444.071	24.691	0.000	
company	154,307,541.630	12	12,858,961.802	19.547	0.000	
year	10,969,234.788	8	1,371,154.348	2.084	0.046	
lnTA	13,680,401.702	1	13,680,401.702	20.795	0.000	
Asset Tangibility	274,532.600	1	274,532.600	0.417	0.520	
Debt to Equity	5,795,433.973	1	5,795,433.973	8.810	0.004	
Return on Assets	17,809,224.759	1	17,809,224.759	27.071	0.000	
Growth rate Sales	1,156,749.069	1	1,156,749.069	1.758	0.188	
Growth rate Fixed assets	670,220.330	1	670,220.330	1.019	0.316	
Error	57,891,592.405	88	657,859.005			
Total	526,792,743.593	115				
Corrected Total	336,987,311.480	114				

a. R Squared = .828 (Adjusted R Squared = .777)

**Table 3a Parameter Estimates**

Dependent Variable: Inventory Days

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	20,424.233	4,166.810	4.902	0.000	12,143.573	28,704.893
DLF	2,594.275	789.768	3.285	0.001	1,024.776	4,163.774
Godrej Properties	-2,205.303	630.598	-3.497	0.001	-3,458.484	-952.122
HDC	3,823.206	438.943	8.710	0.000	2,950.900	4,695.512
Oberoi Realty	-3.703	599.991	0.006	0.995	-1,196.060	1,188.654
NCC	-1,778.625	466.344	3.814	0.000	-2,705.385	-851.865
Phoenix	-2,698.457	773.457	3.489	0.001	-4,235.542	-1,161.373
Prestige Group	-1,338.451	474.466	2.821	0.006	-2,281.353	-395.548
Suntech Realty	416.120	785.257	0.530	0.598	-1,144.413	1,976.653
Puravankara	-2,092.876	616.353	3.396	0.001	-3,317.747	-868.004
Shobha	-1,929.656	545.369	3.538	0.001	-3,013.462	-845.850
Brigade Group	-3,081.756	698.039	4.415	0.000	-4,468.961	-1,694.551
Parsvanth	-663.874	513.714	1.292	0.200	-1,684.774	357.025
Indiabulls Realty	0(a)	.	.	.	.	.
[year=2011]	-1,593.342	474.663	3.357	0.001	-2,536.635	-650.048
[year=2012]	-1,310.913	420.625	3.117	0.002	-2,146.817	-475.008
[year=2013]	-1,384.190	378.755	3.655	0.000	-2,136.887	-631.493
[year=2014]	-921.317	367.132	2.509	0.014	-1,650.915	-191.719
[year=2015]	-795.938	360.074	2.210	0.030	-1,511.509	-80.366
[year=2016]	-947.802	340.643	2.782	0.007	-1,624.760	-270.845
[year=2017]	-827.996	335.929	2.465	0.016	-1,495.583	-160.408
[year=2018]	-604.287	327.479	1.845	0.068	-1,255.083	46.509
[year=2019]	0(a)	.	.	.	.	.
Ln TA	-1,931.494	423.556	4.560	0.000	-2,773.222	-1,089.766
Asset Tangibility	-629.071	973.799	0.646	0.520	-2,564.292	1,306.149
Debt to Equity	679.170	228.824	2.968	0.004	224.430	1,133.910
Return on Assets	-221.130	42.500	5.203	0.000	-305.590	-136.670
Growth rate Sales	-269.309	203.094	1.326	0.188	-672.916	134.298



Growth rate Fixed Assets	103.016	102.062	1.009	0.316	-99.810	305.843
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a. This parameter is set to zero because it is redundant.

There was found to be a significant difference in inventory days between the companies controlling for other variables, with DLF and HDC having significantly higher inventory days than Indiabulls, which in turn had significantly higher inventory days than Godrej, NCC, Phoenix, Prestige, Puravankara, Shobha and Brigade. There was also found to be a significant trend increase in inventory days across the research period, controlling for other variables. Also, controlling for differences between companies and years, there was found to be a significant negative size effect, a significant positive leverage effect, a significant negative return on assets effect with no other company-level variable having a significant impact on inventory days.

Table 4 Tests of Between-Subjects Effects						
Dependent Variable: Receivable Days						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	2668719.890(a)	26	102,643.073	11.506	0.000	
Intercept	243,565.831	1	243,565.831	27.303	0.000	
company	1,638,867.019	12	136,572.252	15.309	0.000	
year	216,356.439	8	27,044.555	3.032	0.005	
lnTA	223,955.034	1	223,955.034	25.105	0.000	
Asset Tangibility	2,787.876	1	2,787.876	0.313	0.578	
Debt to Equity	179,324.337	1	179,324.337	20.102	0.000	
Return on Assets	64,312.135	1	64,312.135	7.209	0.009	
Growth rate Sales	8,761.817	1	8,761.817	0.982	0.324	
Growth rate Fixed assets	81,784.463	1	81,784.463	9.168	0.003	
Error	785,029.614	88	8,920.791			
Total	5,493,603.639	115				
Corrected Total	3,453,749.504	114				

a. R Squared = .773 (Adjusted R Squared = .706)

Table 4a Parameter Estimates						
Dependent Variable: Receivable Days						
Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	2,614.283	485.220	5.388	0.000	1,650.010	3,578.557
DLF	256.596	91.968	2.790	0.006	73.830	439.363
Godrej Properties	-419.012	73.432	-5.706	0.000	-564.944	-273.081
HDC	78.644	51.114	1.539	0.127	-22.935	180.223
Oberoi Realty	-195.378	69.868	-2.796	0.006	-334.226	-56.529
NCC	-184.870	54.305	-3.404	0.001	-292.790	-76.950
Phoenix	-376.537	90.068	-4.181	0.000	-555.529	-197.545
Prestige Group	-177.458	55.251	-3.212	0.002	-287.258	-67.658



Suntech Realty	-328.753	91.442	- 3.595	0.001	-510.475	-147.031
Puravankara	-369.247	71.774	- 5.145	0.000	-511.882	-226.612
Shobha	-331.209	63.508	- 5.215	0.000	-457.417	-205.001
Brigade Group	-498.592	81.286	- 6.134	0.000	-660.131	-337.054
Parsvanth	131.256	59.821	2.194	0.031	12.374	250.139
Indiabulls Realty	0(a)	.	.	.	.	.
[year=2011]	-194.198	55.274	- 3.513	0.001	-304.043	-84.352
[year=2011]	-185.387	48.981	- 3.785	0.000	-282.727	-88.047
[year=2012]	-156.341	44.106	- 3.545	0.001	-243.992	-68.690
[year=2014]	-109.712	42.752	- 2.566	0.012	-194.673	-24.751
[year=2015]	-131.251	41.930	- 3.130	0.002	-214.578	-47.923
[year=2016]	-147.145	39.668	- 3.709	0.000	-225.976	-68.314
[year=2017]	-137.827	39.119	- 3.523	0.001	-215.567	-60.088
[year=2018]	-72.382	38.135	- 1.898	0.061	-148.167	3.402
[year=2019]	0(a)	.	.	.	.	.
Ln TA	-247.129	49.323	- 5.010	0.000	-345.148	-149.111
Asset Tangibility	-63.393	113.398	- 0.559	0.578	-288.747	161.962
Debt to Equity	119.469	26.646	4.484	0.000	66.515	172.423
Return on Assets	-13.288	4.949	- 2.685	0.009	-23.124	-3.453
Growth rate Sales	-23.438	23.650	- 0.991	0.324	-70.438	23.561
Growth rate Fixed Assets	-35.986	11.885	- 3.028	0.003	-59.605	-12.367

a. This parameter is set to zero because it is redundant.

There was found to be a significant difference in receivable days between the companies controlling for other variables, with DLF and Parsvanth having significantly higher receivable days than Indiabulls, which in turn has significantly higher receivable days than others except HDC. There was also found to be a significant trend increase in receivable days across the research period, controlling for other variables. In addition, controlling for differences between companies and years, there was found to be a significant negative size effect and a significant negative asset tangibility, a significant negative growth of sales and a significant negative growth of fixed assets effect, with no other company-level variable having a significant impact on receivable days.

**Table 5 Tests of Between-Subjects Effects**

Dependent Variable: Payable Days

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	131339603.328(a)	26	5,051,523.205	5.143	0.000
Intercept	3,103,517.291	1	3,103,517.291	3.160	0.079
company	72,495,330.635	12	6,041,277.553	6.150	0.000
year	8,623,905.576	8	1,077,988.197	1.097	0.373
lnTA	2,863,723.926	1	2,863,723.926	2.915	0.091
Asset Tangibility	1,511,702.951	1	1,511,702.951	1.539	0.218
Debt to Equity	8,988,380.177	1	8,988,380.177	9.151	0.003
Return on Assets	4,425,719.228	1	4,425,719.228	4.506	0.037
Growth rate Sales	1,259,661.289	1	1,259,661.289	1.282	0.261
Growth rate Fixed Assets	210,496.796	1	210,496.796	0.214	0.645
Error	86,437,677.476	88	982,246.335		
Total	242,737,398.130	115			
Corrected Total	217,777,280.803	114			

a. R Squared = .603 (Adjusted R Squared = .486)

**Table 5a Parameter Estimates**

Dependent Variable: Payable Days

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	8,090.039	5,091.521	1.589	0.116	-2,028.288	18,208.367
DLF	1,630.202	965.036	1.689	0.095	-287.604	3,548.009
Godrej Properties	-	770.542	-	0.162	-2,618.729	443.853
	1,087.438		1.411			
HDC	902.130	536.354	1.682	0.096	-163.761	1,968.021
Oberoi Realty	718.623	733.143	0.980	0.330	-738.345	2,175.591
NCC	-333.996	569.836	-	0.559	-1,466.425	798.433
			0.586			
Phoenix	-353.375	945.105	-	0.709	-2,231.573	1,524.823
			0.374			
Prestige Group	-217.750	579.761	-	0.708	-1,369.904	934.404
			0.376			
Suntech Realty	2,237.010	959.523	2.331	0.022	330.159	4,143.861
Puravankara	-848.635	753.135	-	0.263	-2,345.334	648.063
			1.127			
Shobha	-445.091	666.399	-	0.506	-1,769.419	879.236
			0.668			
Brigade Group	-990.773	852.949	-	0.249	-2,685.831	704.284
			1.162			
Parsvanth	-47.460	627.719	-	0.940	-1,294.920	1,200.001
			0.076			
Indiabulls Realty	0(a)	.	.	.	.	.
[year=2011]	-66.829	580.002	-	0.909	-1,219.461	1,085.802
			0.115			
[year=2012]	364.622	513.972	0.709	0.480	-656.789	1,386.032
[year=2013]	432.350	462.810	0.934	0.353	-487.388	1,352.087
[year=2014]	406.391	448.607	0.906	0.367	-485.122	1,297.904

[year=2015]	223.834	439.983	0.509	0.612	-650.540	1,098.207
[year=2016]	-168.498	416.240	-	0.687	-995.687	658.692
			0.405			
[year=2017]	-421.088	410.479	-	0.308	-1,236.829	394.652
			1.026			
[year=2018]	-414.998	400.154	-	0.303	-1,210.221	380.225
			1.037			
[year=2019]	0(a)	.	.	.	.	.
lnTA	-883.709	517.552	-	0.091	-1,912.236	144.817
			1.707			
Asset Tangibility	-	1,189.907	-	0.218	-3,840.860	888.521
	1,476.169		1.241			
Debt to Equity	845.816	279.605	3.025	0.003	290.159	1,401.474
Return on Assets	-110.234	51.932	-	0.037	-213.438	-7.030
			2.123			
Growth rate Sales	-281.033	248.165	-	0.261	-774.210	212.143
			1.132			
Growth rate Fixed Assets	57.732	124.712	0.463	0.645	-190.106	305.571

a. This parameter is set to zero because it is redundant.

There was found to be a significant difference in payable days between the companies controlling for other variables, with Suntech Realty having significantly higher payable days than Indiabulls, which in turn had significantly higher payable days than other selected companies in the sector. There was also found to be no significant trend in payable days across the research period, controlling for other variables. In addition, controlling for differences between companies and years, there was found to be a significant negative size effect, a significant negative asset tangibility effect, a significant negative return on assets effect, and a significant negative growth of sales effect, with no other company-level variable having a significant impact on payables days.

**Table 6 Tests of Between-Subjects Effects**

Dependent Variable: Cash Conversion Cycle						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	144037163.330(a)	26	5,539,890.897	5.304	0.000	
Intercept	7,629,523.851	1	7,629,523.851	7.304	0.008	
company	74,915,618.730	12	6,242,968.228	5.977	0.000	
year	23,490,113.312	8	2,936,264.164	2.811	0.008	
lnTA	6,148,850.023	1	6,148,850.023	5.887	0.017	
Asset Tangibility	426,088.274	1	426,088.274	0.408	0.525	
Debt to Equity	27,964.179	1	27,964.179	0.027	0.870	
Return on Assets	5,616,694.991	1	5,616,694.991	5.377	0.023	
Growth rate Sales	2,188.457	1	2,188.457	0.002	0.964	
Growth rate Fixed Assets	5,459.839	1	5,459.839	0.005	0.943	
Error	91,920,155.285	88	1,044,547.219			
Total	340,185,363.119	115				
Corrected Total	235,957,318.616	114				

a. R Squared = .610 (Adjusted R Squared = .495)

<b>Table 6a Parameter Estimates</b>						
Dependent Variable: Cash Conversion Cycle						
Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	14,948.477	5,250.508	2.847	0.005	4,514.195	25,382.759
DLF	1,220.669	995.170	1.227	0.223	-757.022	3,198.361
Godrej Properties	-1,536.877	794.603	-1.934	0.056	-3,115.984	42.230
HDC	2,999.720	553.102	5.423	0.000	1,900.546	4,098.895
Oberoi Realty	-917.703	756.036	-1.214	0.228	-2,420.167	584.760
NCC	-1,629.499	587.630	-2.773	0.007	-2,797.289	-461.708
Phoenix	-2,721.620	974.617	-2.793	0.006	-4,658.467	-784.773
Prestige Group	-1,298.158	597.865	-2.171	0.033	-2,486.289	-110.027
Suntech Realty	-2,149.643	989.485	-2.172	0.033	-4,116.037	-183.249
Puravankara	-1,613.487	776.653	-2.077	0.041	-3,156.922	-70.053
Shobha	-1,815.774	687.208	-2.642	0.010	-3,181.455	-450.093
Brigade Group	-2,589.575	879.584	-2.944	0.004	-4,337.562	-841.587
Parsvanth	-485.158	647.320	-0.749	0.456	-1,771.572	801.255
Indiabulls Realty	0(a)	.	.	.	.	.
[year=2011]	-1,720.710	598.113	-2.877	0.005	-2,909.334	-532.086
[year=2012]	-1,860.921	530.021	-3.511	0.001	-2,914.227	-807.616
[year=2013]	-1,972.880	477.262	-4.134	0.000	-2,921.337	-1,024.423
[year=2014]	-1,437.421	462.616	-3.107	0.003	-2,356.772	-518.069
[year=2015]	-1,151.022	453.722	-2.537	0.013	-2,052.699	-249.346
[year=2016]	-926.450	429.237	-2.158	0.034	-1,779.469	-73.431
[year=2017]	-544.735	423.296	-1.287	0.202	-1,385.948	296.478
[year=2017]	-261.671	412.650	-0.634	0.528	-1,081.725	558.383
[year=2019]	0(a)	.	.	.	.	.
lnTA	-1,294.914	533.713	-2.426	0.017	-2,355.557	-234.271
Asset Tangibility	783.705	1,227.063	0.639	0.525	-1,654.825	3,222.235
Debt to Equity	-47.178	288.336	0.164	0.870	-620.186	525.830
Return on Assets	-124.184	53.554	-2.319	0.023	-230.611	-17.757
Growth rate Sales	-11.714	255.915	0.046	0.964	-520.291	496.863

Growth rate Fixed Assets	9.298	128.606	0.072	0.943	-246.279	264.875
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a. This parameter is set to zero because it is redundant.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

A significant negative size effect on inventory days shows that the large companies will keep the low level of inventories in proportion to change in sales. The large companies will make use of their supply chain network more efficiently than small ones. The negative size effect on receivable days shows that the large companies use their market power, which helps in lowering the terms of receivable. The negative size effect on cash conversion days, which shows that the large firms with the use of their market power and are able to hold the suppliers for long. This reduces the cash conversion days. The findings are on par with the studies [Mongrut et al. \(2014\)](#), [Nazir and Afza \(2009\)](#), [Moss and Stein \(1993\)](#), [Chiou et al. \(2006\)](#). There was found to be a significant positive effect of leverage on inventory days, which suggests that companies will maintain higher level of inventory with the use of high debt. Here, the firms do attract external finance for inventories with the view that they will be able to sell and make profits as and when they get orders. They can earn more than the interest cost. With respect to receivable and payable days there was found to be a significant positive effect of leverage indicating the companies having higher debt tend to have higher credit terms and the companies with high debt generally negotiates for payment terms with suppliers. This is due to the better access to the capital market, which in turn re-distributes the capital to the firm, which has poor access via commercial credit to get the competitive advantage (or foregone discounts). These results are consistent with the studies [Nakamura and Palombini \(2009\)](#), [Niskanen and Niskanen \(2006\)](#). The results shows a significant negative effect of return on assets on inventory, receivable, payable and cash conversion days. This suggests that the profitability is the key determinant of working capital in Indian Realty Sector. The firms with the high profits have sufficient cash to invest as a reason they are not concerned about the Working Capital. It was also found that the firm increases the value of shareholders by reducing receivable and increase creditors to improve the Working Capital position. The study goes with the Pecking Order Theory [Myers and Majluf \(1984\)](#), [Fatimatuzzahra and Kusumastuti \(2016\)](#) suggesting the inverse association between profitability and working capital.

There results also indicate a significant negative effect of growth of fixed assets on the receivable days highlights that companies with high growth tend to invest less in receivable. The pursuit of favorable extended credit policies may lead to higher sales while commitment to increase the sales needs more commitment in the receivables. It is in consistent with the Pecking Order Theory, which says higher growth level companies will prefer internal funds to finance the growth.

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