



Financial Analysis of the Real Estate Industry in India

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Abstract: The purpose of the study was to examine: (i) the relationship between real estate sector investment and GDP; and (ii) analyze the financial parameters of Indian real estate industry. Simple linear regression analysis was used to test the relationship between real estate sector investment and GDP. The results indicate a positive relationship between both the variables. Financial analysis was carried out by taking financial aggregates, financial ratios, ratios pertaining to margins on income, returns on investments and efficiency ratios of the real estate industry in India. The financial analysis of Indian real estate industry reveals that: (i) the real estate industry is yet to recover from recession; (ii) the profit generated during an accounting period against the total income generated was continuously declining during the recent years; (iii) operating profit is decreasing; (iv) returns on funds provided by its equity shareholders have declined considerably; (v) profitability as a ratio of capital employed is currently having a downward trend; there is a drastic slump in returns generated on the total funds deployed by it in the business; (vi) there is a drastic fall in returns that the Indian real estate industry generates on the fixed assets created by it; (vii) asset utilisation points out a trend of increase in expenditure; and (viii) able to give only a bare minimum amount of returns.

Keywords: Real Estate, Real Estate Industry Analysis, Industry Analysis, Real Estate Industry, India

1. Introduction

Tenth five year plan (2002-07) of Government of India defined 'real estate' as "land, including: (i) the air above it; (ii) the ground below it; and (iii) any buildings or structures on it [1]." It further states that it covers residential housing, commercial complexes and offices, trading and commercial spaces such as theatres, hotels and restaurants, retail outlets, industrial structures, for instance, factories and government administrative buildings. Real estate comprises: (i) the purchase; (ii) sale; and (iii) development of land, residential and non-residential buildings. According to the Real Estate Bill (2011) real estate project includes the activities of (i) development of immovable property including construction thereon or alteration thereof and their management; and (ii) sale, transfer and management of immovable properties [2]. Economic Survey (2010-11) includes development of commercial and residential real estates, with participation and involvement of both Government agencies and private developers in the real estate sector [3]. The global economic crisis impacted the Indian real estate industry significantly and it started recovering. As stated by the Survey, the real

estate sector accounted for 9.3 per cent of the GDP in the year 2009-10. The real estate investors play an important role in the development of the Indian economy [4]. Gill Amarjit S., Harvinder S. Mand and RajenTibrewala [5] studied the factors that influence the decision of Indian investors to invest in the real estate market and found that the investment behavior and the decision differ based on the age of the investors. In view of the fact that the Indian real estate market is one of the major contributors of the GDP of the economy and real estate investors play a significant role in the development of the economy, it is important to examine the real estate industry. The present study examines the relationship between real estate sector investment and GDP and analyzes the financial parameters of Indian real estate industry.

2. Literature Review

Although industries around the world have been studied, the literature related to study on fastest growing construction and real estate firms are not traceable. Real estate is often considered synonymous with real property, in contrast with

personal property [6]. Studying the nature of real estate is complex considering that it is not a product or service, per se, but a whole sector, comprising of distinct businesses [7]. Indian real estate market is one of the emerging markets in the less developed countries [8]. Investment in the real estate market is one of the popular investments because everyone needs a place to live [9]. Real estate sector is the second largest employment provider in India. Estimates show that for every rupee that is invested in housing and construction, Rs. 0.78 gets added to GDP. Housing ranks fourth in terms of the multiplier effect on the economy and third amongst 14 major industries in terms of total linkage effect. The GDP share of the real estate sector (including ownership of dwellings) along with business services was 10.6 per cent in 2010-11 [10]. Studies reveal that there is a high degree of positive correlation between the real estate prices and GDP [11].

Real estate in India has a strong demand backed growth due to population growth, higher allocation to savings in real estate, actualization of mortgaging by consumers and bridging the gap of the current housing deficit [12]. The study of Vishwakarma (2013) finds a sign of a positive periodically collapsing bubble in the Indian real estate market [13]. Even though 'real estate is long cycle prone business' [14], size of the Indian real estate market is expected to reach US\$ 180 billion by 2020 [15]. It is estimated that at the start of the 12th Five Year Plan (2012-17), the total housing deficiency in India is 18.78 million [16]. The paper of Tahsin Ahmad and Joy Sen (2014) [17] reveals that the real estate market in India is growing rapidly. On the contrary, Knight Frank, in their financial analysis of the real estate companies (2014), points out that high interest rate regime and higher prices coupled with uncertain job prospects discouraged real estate investments in India [18].

The study of Grant Thornton India LLP and CII (2012) shows that Indian real estate sector has emerged as an expanding base of developers, investors and global stakeholders buoyed by the growing construction industry in the country and has been undergoing corporatisation and professionalisation and recognised as a vital sector for the economic growth and development of the country [19]. The sector witnessed a slight correction due to dwindling in demand owing to the global economic scenario, a slowdown in the domestic economy, increase in input costs and controversies over land acquisition. However, in the long run, urbanisation is unavoidable and this will contribute significant demand for real estate. The study states that "finance has unequivocally been the major challenge for Indian real estate sector". It has affected the sector both by increased borrowing costs for the developers and affected demand for real estate which is largely driven by bank finance. Developers are focusing on latest and advanced technology as a device for optimising the value of their businesses in the marketplace. This has resulted in a reduction in wastage of time in designing to project execution and even in marketing and customer service.

A study of Deutsche Bank Research [20] report states that about one in every sixth person on earth lives in India. Rate of population growth has moderated to just 1.5 per cent per annum. The high birth rates and drop in infant mortality during the past few decades imply that population of India is very young. One in every three Indians is under the age of 15, and only one in three is older than 35. It seems, by 2030, India may become the most populous country on earth. Further, by 2050, Indian subcontinent's population may become nearly 1.6 billion, 200 million more than in China. The United Nations Population Division (UNDP) expects the degree of urbanization to grow over 40 per cent by 2030, implying that urban population will grow by 2.5 per cent per annum in the next 25 years. Hence, while the rural population increases only marginally, urban population, by 2030, will double to approximately 600 million [21]. Therefore, there is enormous scope for the real estate industry's development.

Analysis of A.T. Kearney [22] (2012) placed India as 5th and pronounces that India remains a high-potential market with accelerated retail growth of 15 to 20 per cent expected over the next five years. The retail sector employs approximately 8 per cent of India's population, with demand for skilled workers expected to rise [23]. The Indian office market has benefited from off-shoring activities. A report by NCAER (2011) reveals that by 2015-16, India will be a country of 53.3 million middle class households, translating into 267 million people falling in the category [24]. Currently, India has 31.4 million middle class households (160 million individuals). The number of middle class households in India by 2025-26 is expected to reach 113.8 million middle class, or 547 million people, an almost 3-fold growth from the current levels. As per the study, households with annual income between Rs 3.4 lakh and Rs 17 lakh (at 2009-10 price levels) fall in the middleclass category. According to the report a typical Indian middle class household spends about 50 per cent of the total income on day to day expenses with the remaining is becoming savings. All these prove the sustainability of the economy, presence of massive middle class households with a sizable disposable income and savings and reveal that there is enormous potential for India's real estate market.

3. Real Estate Industry in India

Firms in the real estate sector of India constitute the real estate industry of India. The industry has moved from single buildings to large layouts to integrated townships. Commercial buildings are contemporary in design and malls are springing up on a national scale like developed countries. The arrival of multinational firms is catalysing the industry transformation through infusion of the much required capital, contemporary designs, best practices, etc. Large developers, particularly those who have got themselves listed, have already begun to professionalise their organisations. They are developing unique brand identity [25].

The real estate industry has significant linkages (both

direct and indirect) with nearly 250 sectors like cement, steel, paints, and building hardware which not only contribute to capital formation and generation of employment and income opportunities, but also catalyse and stimulate economic growth. Therefore, investment in housing and real estate activities can be considered a barometer of growth of the entire economy [26].

Real estate sales declined and became Rs. 275.6 billion in 2014-15 from Rs. 302.8 billion in 2013-14. While the demand for real estate remained low for two years (2008-10), i.e., after the beginning of economic slowdown, the real estate sector is likely to completed Rs.2.11 trillion worth projects during September 2016 [27].

Financial Aggregates of the Indian Real Estate Industry

Firms in the sector generated a total income of Rs. 329 billion and sales of Rs. 276 billion in 2014-15. Net worth and profit after tax was Rs. 679 billion and Rs. 22 billion

respectively during the same period (Table 1).

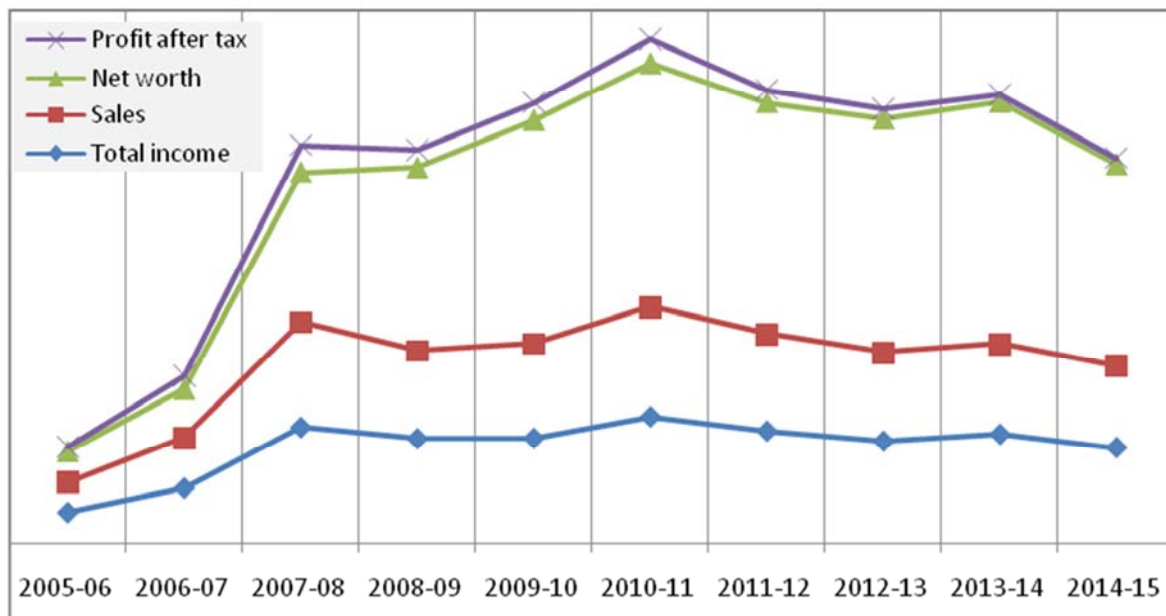
Table 1 and figures 1 and 2 reveals that all the financial aggregates of the Indian real estate industry, such as, total income, sales, net worth and profit after tax is reducing. At present, real estate industry in India is facing a slowdown in sales. This brings about a moderate growth in demand for input industries of real estate industry. A probable revival in the construction and real estate sector in the coming years may drive the demand for input industries upwardly. The real estate demand has been weak largely due to the slowdown in economy, weak macro-economic indicators and weakness in the global market, increased property prices and high interest rates due to the tight money policy [28]. On the other hand, return on assets of the real estate industry in India is growing (Figure 3). This shows that the efficiency level of real estate industry is increasing.

Table 1. Financial Aggregates of the Real Estate Industry in India.

(in Rs. Billion)

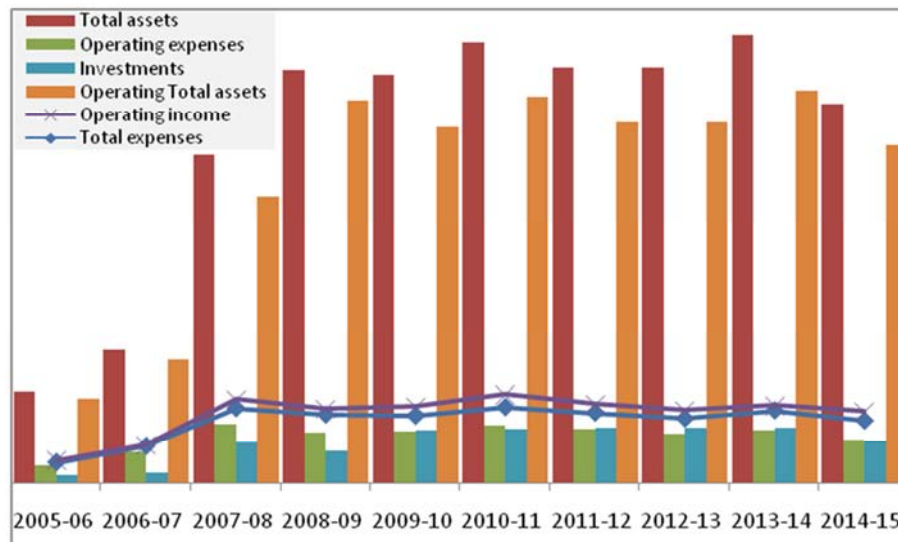
Particulars	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Total income	111	193	396	359	360	432	384	350	373	329
Sales	100	169	354	297	319	370	328	299	303	276
Net worth	104	163	506	616	753	821	779	787	816	679
Profit after tax	15	46	93	60	61	84	45	34	27	22
Total assets	482	703	1,731	2,185	2,162	2,324	2,198	2,199	2,367	2,003
Total expenses	108	195	397	363	356	403	374	342	385	330
Operating expenses	90	163	309	265	268	303	282	255	277	227
Investments	39	49	214	165	279	285	289	292	290	220
Return On Assets	0.024	0.009	0.030	0.016	0.027	0.033	0.024	0.023	0.013	0.027
Sample size	346	502	699	929	1,083	1,079	896	757	624	568

Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.



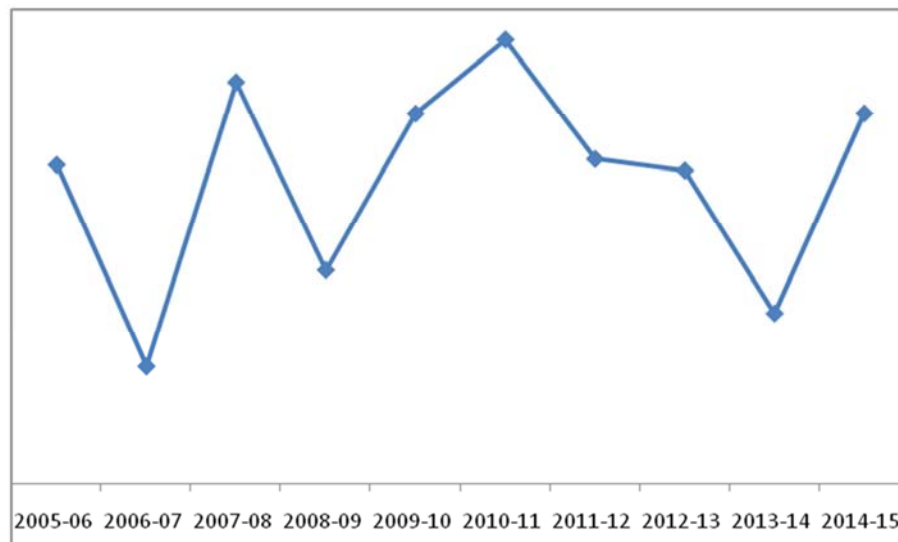
Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 1. Financial Aggregates of the Indian Real Estate Industry.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 2. Total Assets, Investments, Operating Income and Expenses.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 3. Return On Assets of the Indian Real Estate Industry.

Buyers expect a correction in prices owing to increase in cost of borrowings. Reserve Bank of India is also expected to cut rates in the near-term. However, as a result of high cost of construction and cost overrun due to execution delays, the builders are not expected to reduce prices considerably [29].

4. The Study

A financial analysis is carried out by taking financial aggregates, financial ratios, ratios pertaining to margins on income, returns on investments and efficiency ratios of the real estate industry in India. A macro level analysis of the real estate industry as well was also carried out to examine the relationship between real estate sector investment (taken as sales) and GDP.

5. Methodology

Data source of the study is the database of Centre for Monitoring Indian Economy. It has data on over 1000 listed firms in the real estate industry. The financial data of the firms used for the study ranges from 346 to 1083 (refer Table 1). In order to validate this sales of the industry has been projected up to 2014-15 by using linear regression analysis. Analytical methods used for this study are detailed below.

5.1. Data Source

Data source of the study is Prowess, Economic Outlook and Industry Outlook, database of the financials of Indian companies prepared and maintained by Centre for Monitoring Indian Economy, India.

5.2. Real Estate Industry Analysis

In order to carry out ratio analysis of firms under study current ratio, quick ratio, debt to equity ratio and return on assets are applied. Analytical tools used for the industry analysis are financial ratios of the real estate industry pertaining to margins on income, returns on investments and efficiency ratios were analysed. Following financial ratios are applied for the real estate industry analysis.

Margins on income on total income

- i. PBDITA as percentage of total income
- ii. PBT as percentage of total income
- iii. PAT as percentage of total income
- iv. Cash profit as percentage of total income

Margins on income on total income net of prior period income and extraordinary income (P&E)

- v. PAT net of P&E as percentage of total income net of P&E
- vi. Cash profit net of P&E as percentage of total income net of P&E

Margins on income on sales

- vii. PBDITA net of P&E&OI&FI as percentage of sales

PBDITA, net of P&E&OI, is profits before depreciation, interest, tax and amortisation, net of prior period and extraordinary transactions and excluding other income. It also excludes income from financial services. These are essentially interest and dividends. This is a close approximation of what is usually called the operating profits of the firm.

Returns on investments on net worth

- viii. PAT net of P&E as percentage of net worth

- ix. PAT as percentage of net worth

- x. Cash profit as percentage of net worth

Returns on investments on capital employed

- xi. PAT net of P&E as percentage of capital employed

- xii. PAT as percentage of capital employed

Returns on investments on total assets

- xiii. PAT net of P&E as percentage of total assets excluding revaluation

- xiv. PAT as percentage of total assets excluding revaluation

Returns on investments on Gross Fixed Assets (GFA)

- xv. PAT net of P&E as percentage of GFA excluding revaluation

- xvi. PAT as percentage of GFA excluding revaluation

Asset utilisation (times)

- xvii. Total income / total assets

- xviii. Total income / compensation to employees

6. Real Estate Industry and Growth of Indian Economy

The general belief is that there is a strong correlation between real estate industry and economic growth. In order to substantiate this, a model was fitted, using simple linear regression analysis, by taking log of sales of the real estate industry (real estate sector investment) and GDP (at constant prices).

Table 2. GDP and Sales of Real Estate Industry.

Year	GDP(in Rs. Million)	Growth of GDP*(in percentage)	Sales of Real Estate Industry(in Rs. Million)	Growth of Sales*(in percentage)
1995-96	17377410	-	7,213	-
1996-97	18763190	7.97	14,154	96.24
1997-98	19570320	4.30	10,115	-28.54
1998-99	20878280	6.68	12,473	23.32
1999-00	22462760	7.59	12,734	2.09
2000-01	23427740	4.30	16,201	27.22
2001-02	24720520	5.52	22,554	39.21
2002-03	25706900	3.99	25,977	15.18
2003-04	27778130	8.06	47,198	81.69
2004-05	29714640	6.97	58,694	24.36
2005-06	32530720	9.48	100,358	70.99
2006-07	35643630	9.57	169,049	68.45
2007-08	38966360	9.32	353,803	109.29
2008-09	41586750	6.72	296,902	-16.08
2009-10	45160710	8.59	319,067	7.47
2010-11	49185330	8.91	370,286	16.05
2011-12	52475290	6.69	327,640	-11.52
2012-13	54821110	4.47	298,696	-8.83
2013-14	57417910	4.74	302,781	1.37
2014-15	-	-	275,602	-8.98

* Calculated.

Source: Compiled from Economic Outlook and Industry Outlook, Centre for Monitoring Indian Economy, India.

A linear regression model is fitted in order to establish the relationship between real estate industry and Indian economy (GDP). The results reveal that sale of real estate industry is an important determinant of GDP.

The table 3 presents the model summary of regression analysis. R squared indicates that the model explains around 93 percent.

Table 3. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.964(a)	.929	.925	.10683

aPredictors: (Constant), Sales

Table 4 shows the coefficients of regression analysis and the simple linear regression equation are as follows:

Table 4. Coefficients (a).

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta		B	Std. Error
1	(Constant)	14.436	.191			75.677	.000
	Sales	.255	.017	.964		14.915	.000

aDependent Variable: GDP

Table 5 shows the ANOVA of the regression analysis as follows:

Table 5. ANOVA (b).

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.539	1	2.539	222.455	.000(a)
	Residual	.194	17	.011		
	Total	2.733	18			

aPredictors: (Constant), Sales

bDependent Variable: GDP

Summary statement of linear regression report is as follows:

The equation of the straight line relating GDP and sales of the real estate industry is estimated as: $GDP = (14.43) + (0.25) \text{ sales of the real estate industry}$ using the 19 observations in this dataset. The y-intercept, the estimated value of GDP when sale of the real estate industry is zero, is 14.43 with a standard error of 0.19. The slope, the estimated change in GDP per unit change in sales of the real estate industry, is 0.25 with a standard error of 0.02. The value of R-Squared, the proportion of the variation in GDP that can be accounted for by variation in sales of the real estate industry, is 0.929. The correlation between GDP and sales of the real estate industry is 0.964.

A significance test that the slope is zero resulted in a t-value of 14.87. The significance level of this t-test is 0.00. Since $0.00 < 0.05$, the hypothesis that the slope is zero is rejected.

The estimated slope is 0.25. The lower limit of the 95% confidence interval for the slope is 0.22 and the upper limit is 0.29. The estimated intercept is 14.43. The lower limit of the 95% confidence interval for the intercept is 14.03 and the upper limit is 14.84.

7. Real Estate Industry Ratio Analysis—Results and Discussions

7.1. Margins on Income

In order to evaluate the profitability of the real estate industry, parameters of margins on income, viz., (i) return on total assets, (ii) return on income, (iii) return on total income net of P&E and (iv) return on sales are analysed. Results of

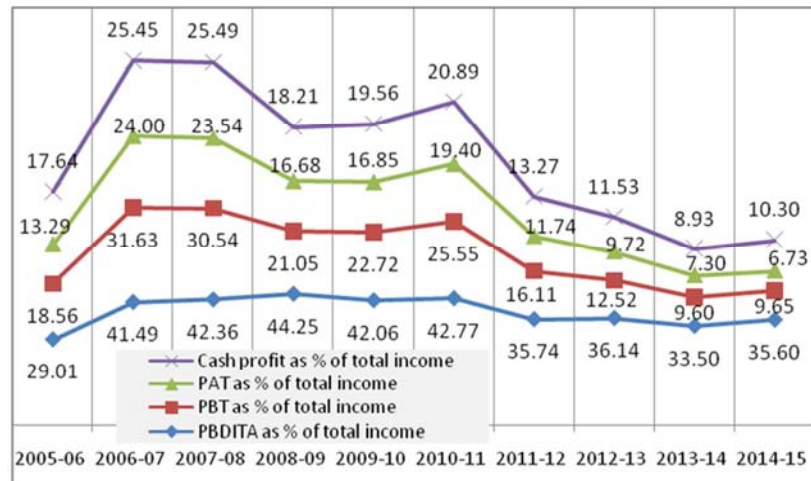
the analysis are as follows:

7.1.1. On the Basis of Return on Total Income

To facilitate evaluation of margins on income of the real estate industry, parameters of margins on total income, viz., (i) PBDITA as percentage of total income, (ii) PBT as percentage of total income, (iii) PAT as percentage of total income and (iv) cash profit as percentage of total income are analysed.

PBDITA is a reasonable measure of the operating profit. Normally, a firm/industry should make sufficient profits at the PBDITA level so that it can account for depreciation and amortisation, pay for its debts and then if there is still a surplus left, pay direct taxes. PBT as percentage of total income measures the profit before tax as a per cent of the total income. This is among the most comparable measures of profitability when it comes to comparing companies, or even industries. PAT as a per cent of total income is the final net profit that is made over the total income generated by the firm. Cash profit measures the firm's/industry's ability to generate cash from the business it does in a year.

The study examined profitability ratios, viz., PBDITA as percentage of total income, PBT as percentage of total income, PAT as percentage of total income and cash profit as percentage of total income, for analysing return on total income. The return on total income had a steep rise in 2006-08. It shows that income of the firms reduced after 2007-08. The PBDITA as percentage of total income figures reveals that profitability as a ratio of gross income to net income has reduced from 2008-09 level and started gaining momentum in 2014-5 (refer Figure 4). The other profitability ratios too follow similar trend except PBT as percentage of total income. Therefore, it appears that margins on income on the basis of return on total income of the real estate industry are yet to recover from recession.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 4. Margins on Income on the Basis of Return on Total Income.

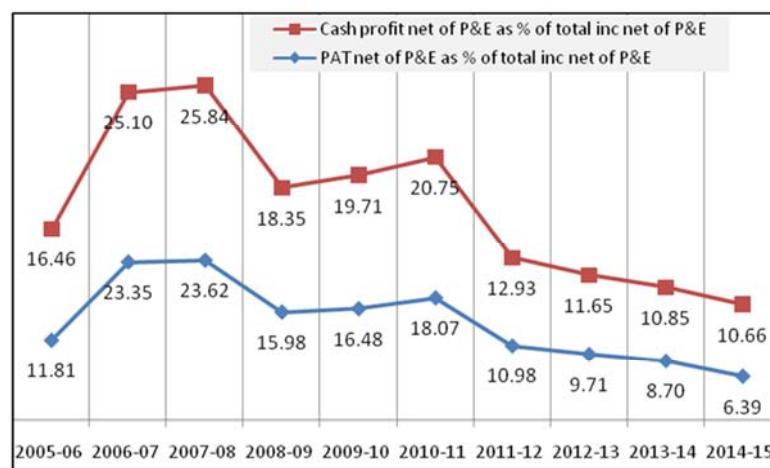
7.1.2. On the Basis of Margins on Total Income Net of P&E

A supplementary ratio considered for assisting evaluation of margins on income of the real estate industry, parameters of margins on total income net of P&E, viz., (i) PAT net of P&E as percentage of total income net of P&E and (ii) Cash profit net of P&E as percentage of total income net of P&E are analysed.

To derive at a more accurate estimate of the profits generated, during an accounting period, it is useful to remove the impact of transactions that pertain to prior periods (P) or are extra-ordinary (E) in nature. PAT net of P&E is such a measure. Cash profit net of P&E as percentage of total income net of P&E compares the cash generated during an accounting period against the total income generated during

the same period after having netted out the prior period and extra-ordinary transactions from both the numerator and the denominator.

PAT net of P&E as percentage of total income net of P&E shows that the profitability as a ratio of gross income to net income is having an upward trend, however, it was negative in the first three years under study. Cash profit net of P&E as percentage of total income net of P&E reached 25 in 2006-08 and reduced during subsequent two years and grown to be around 20 in 2010-11 and reduced continuously during 2012-15 (Figure 5). The above ratios indicate that the profit generated during an accounting period against the total income generated is continuously declining during the recent years.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 5. Margins on Income on the Basis of Margins on Total Income net of P&E.

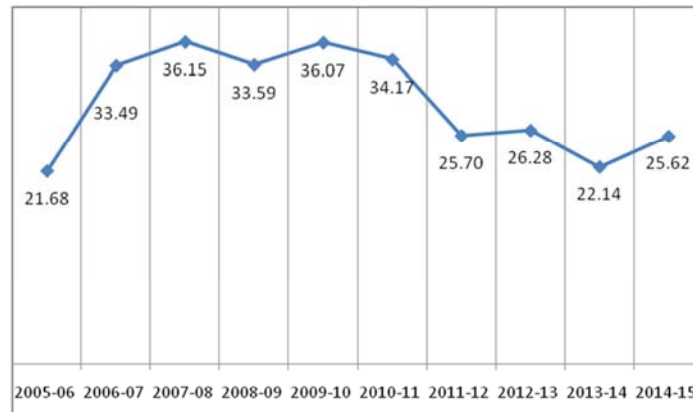
7.1.3. On the Basis of Margins on Income on Sales

An additional ratio considered for supporting evaluation of margins on income of the real estate industry on the basis of

PBDITA net of prior period and extra-ordinary transactions and other income to sales is analysed (Figure 3). PBDITA net of PE&OI is a reasonably close measure of operating profits. It indicates a decrease after 2009-10. Moreover, the average

during the first half of the period under study (2005-10) was over 32% while the second half it (average) was only around 27%. Consequently, the trend of PBDITA net of

P&E&OI&FI as percentage of sales indicates that the operating profit is decreasing (Figure 6).



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 6. Margins on Income on the Basis of Margins on Income on Sales.

7.2. Returns on Investments

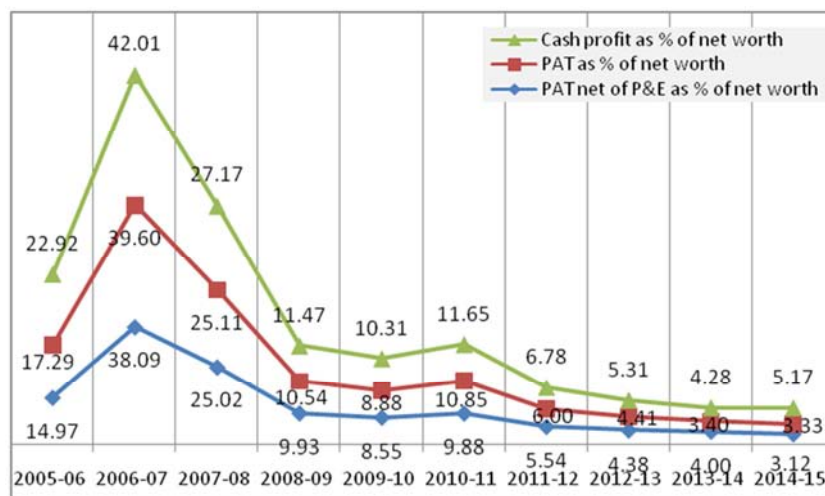
In order to evaluate the profitability of the real estate industry, parameters of margins on income, viz., (i) return on net worth, (ii) return on capital employed, (iii) return on total assets and (iv) return on gross fixed assets are the investigated. Results are as follows:

7.2.1. On the Basis of Return on Net Worth

Profit after tax (PAT) net of P&E as percentage of net worth is one of the measures of the returns that a business generates on funds provided by its equity shareholders. Equity shareholders fund, or net worth, is the sum of the funds provided by the equity shareholders and the accumulated reserves of the firm. Net worth is always net of revaluation reserves, if any. PAT net of P&E is a better measure of returns on net worth than PAT alone. PAT as percentage of net worth is the ratio of PAT generated by the

firm during a year (an accounting period, to be more precise) and the average of the net worth of the firm at the beginning of the year and at the end of the year. Cash profit is the profit after tax adjusted for the effect of non-cash transactions. Principally, these non-cash transactions are depreciation, amortisation and write-offs. These and other similar non-cash charges are added back to the PAT. Correspondingly, non-cash incomes are deducted from the PAT to derive the cash profit generated by a business during a year.

PAT net of P&E as percentage of net worth was very high during 2006-07 and began deteriorating during period 2007-15. It has declined to 3% (2014-15) from 38% during 2006-07. Similar trend can be observed in the case of cash profit as percentage of net worth and PAT as percentage of net worth (Figure 7). This proves that the returns that the Indian real estate industry generates on funds provided by its equity shareholders have declined considerably.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

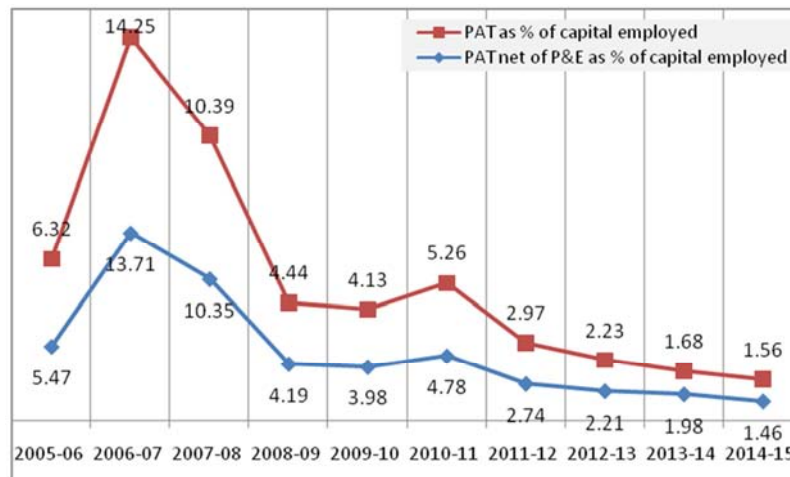
Figure 7. Returns on Investments on the Basis of Return on Net-worth.

7.2.2. On the Basis of Return on Capital Employed

This is one of the measures of the returns that an enterprise generates on funds provided by its shareholders and lenders. PAT net of P&E is a measure of profits that is net of prior period and extra-ordinary transactions. Prior period and extra-ordinary incomes are removed and similar expenses are added back to derive a measure of PAT that corresponds better to the current year's activities. It removes the impact of transactions that are not directly related to the current year's

operations. PAT as percentage of capital employed is a ratio of PAT generated by the firm during a year and the average of the capital employed by the firm as of the beginning of the year and end of the year.

Both PAT net of P&E as percentage of capital employed and the PAT as percentage of capital employed indicates that profitability as a ratio of capital employed is currently having a downward trend (Figure 8).



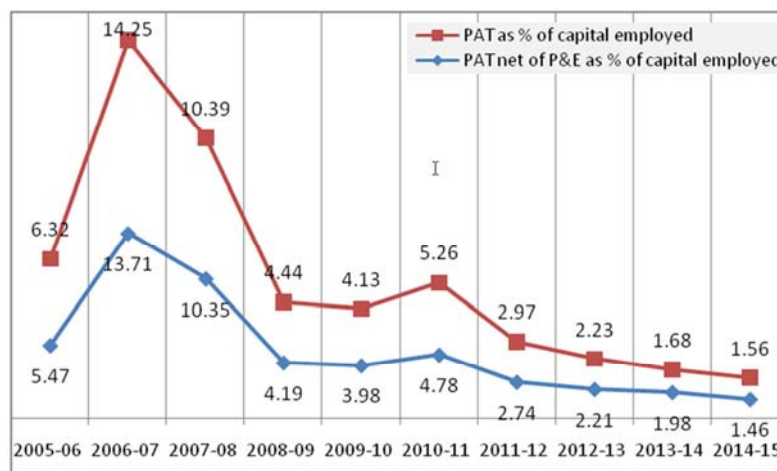
Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 8. Returns on Investments on the Basis of Return on Capital Employed.

7.2.3. On the Basis of Return on Total Assets

This is one of the measures of the returns that an enterprise generates on the total funds deployed by it in the business. It is a measure of profits that is net of prior period and extra-ordinary transactions. In order to facilitate assessment of returns on investments of the real estate industry, PAT net of P&E as percentage of total assets excluding revaluation and PAT as percentage of total assets excluding revaluation are analysed.

Both the ratios reveals that returns generated on the total funds deployed by real estate industry in the business was negative in the initial year under study and it became maximum in 2006-07 and fell down drastically in the subsequent years. During 2010-11 it started improving and the further years show drastic decline (Figure 9). This establishes that there is a drastic slump in returns that the Indian real estate industry generates on the total funds deployed by it in the business.



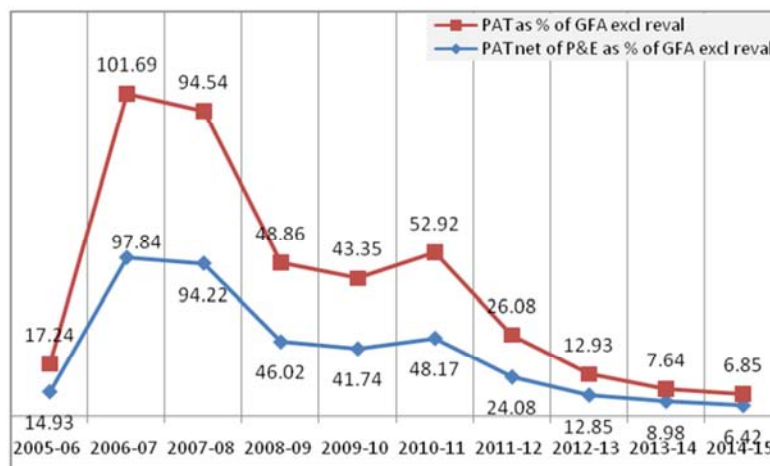
Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 9. Returns on Investments on the Basis of Return on Total Assets.

7.2.4. On the Basis of Return on Gross Fixed Assets

This is one of the measures of the returns that an enterprise generates on the fixed assets created by it. Two ratios are studied returns on investments on the basis of return on gross fixed assets: (i) PAT net of P&E as percentage of gross fixed assets (GFA) excluding revaluation and (ii) PAT as percentage of GFA excluding revaluation. Since fixed assets are usually maintained at prime productivity levels, un-depreciated gross value of all fixed assets is denominator in the ratio. Prior period and extra-ordinary incomes are removed and similar expenses are added back to derive a measure of PAT that corresponds better to the current year's

activities. The numerator of this ratio is the PAT net of P&E generated by the firm during a year. The data on both the ratios indicates the same trend of return on total assets. Return on gross fixed assets real estate industry was highest in boom period and started declining significantly. Both the ratios became half in 2008-09 from the previous year. Recovery started in the last year, i.e., 2010-11 further years show severe decline (Figure 10). These ratios, currently, became a little over 6% from around 100% (2005-06). This establishes that there is a drastic fall in returns that the Indian real estate industry generates on the fixed assets created by it.

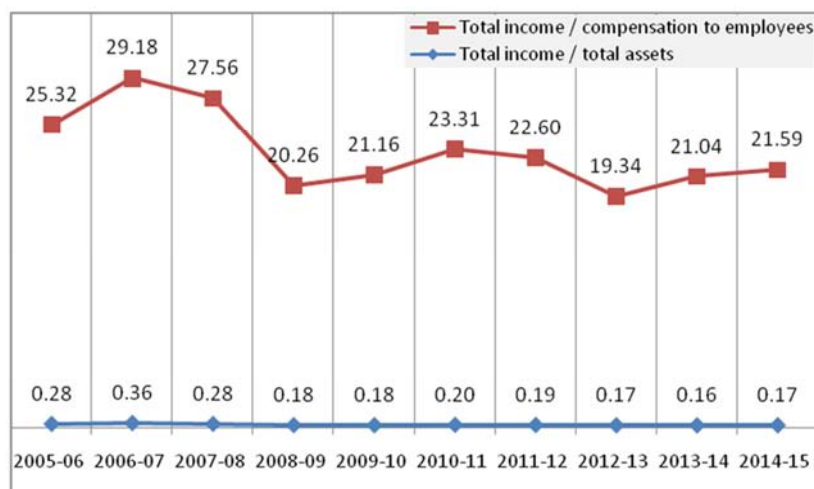


Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 10. Returns on Investments on the Basis of Return on Gross Fixed Assets.

7.3. Asset Utilisation(Times)

Low ratios of total income and total assets (Figure 11) show that profitability of the industry is sinking. This indicates that the real estate industry's efficiency in using its assets to generate revenue has reduced. Ratios of total income and compensation to employees were 29.18 in 2006-07 and it reached 20.26 in 2007-08. It became 21.59 in 2014-15 from 19.34 in 2012-13 (Figure 8). This indicates a trend of increase in expenditure.

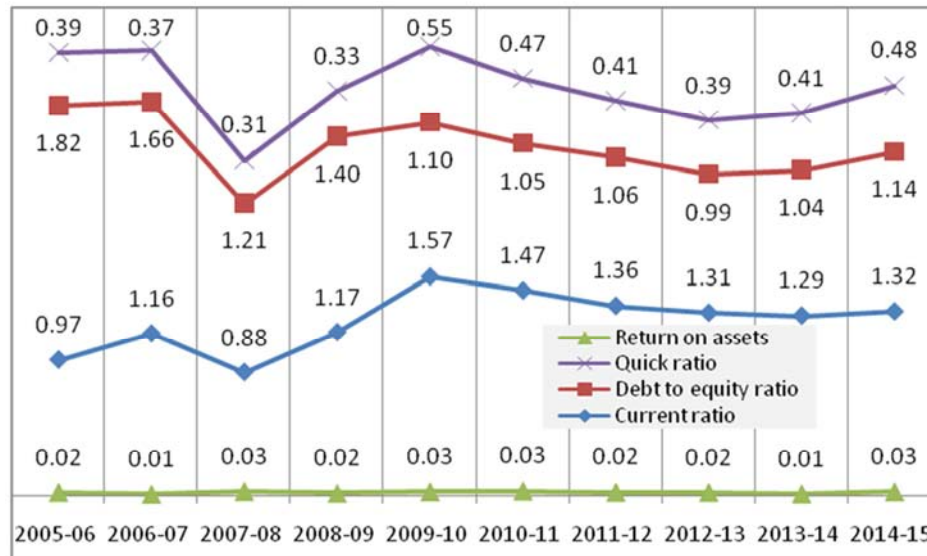


Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 11. Asset Utilisation Ratios.

7.4. Liquidity Ratios

Current ratio of Indian real estate industry began to show a slight upward trend in 2014-15. This reveals that the real estate industry may be able to meet its short-term obligations and regain financial health in the coming years. This can be supported by the improvement in the quick ratio and debt to equity ratio of the Indian real estate industry (Figure 12). Return on assets indicates inefficient performance of the industry because it is able to give only a small amount of returns.



Source: Compiled from Industry Outlook, Centre for Monitoring Indian Economy, India.

Figure 12. Liquidity Ratios.

CMIE's data on total expenses on raw-material, power, fuel and water charges, compensation to employees, etc. (Table 4), indicate that the firms in the real estate industry are reducing raw-material stock as a result of fall in sales in 2008-09. The situation started improving from 2009-10. Current liabilities figures confirm an increase in liabilities due to low sales in recent years. Change in stock became -48.88 per cent in 2008-09 from 63.23 per cent in the preceding year indicate that the firms are reducing raw-material stock. Another notable point is that the gross fixed assets reduced a lot in 2007-08; growth of the gross fixed assets became 0.31 per cent in 2007-08 from 59.10 per cent in 2006-07. This signifies that firms purchased land and sold it. Similarly, a three-fold growth from previous year is recorded in 2008-09 in depreciation allocations. This means firms in the real estate industry were buying equipments in large quantities in 2007-08. All these indicate the fact that the firms expected a steady growth in the subsequent years. Therefore, it appears that the industry did not have awareness on the business cycles and could not foresee a downturn in the economy.

The real estate demand is determined by population growth, personal income of the people, employment rates, interest rates, and access to capital. The profitability of individual firms depends on property values and demand, which are both impacted by general economic conditions.

Decadal growth of population from 2000-01 to 2010-11 was 16.84. Employment for the five year period from 2005-06 to 2009-10 was 2.70 crore, 2.73 crore, 2.75 crore, 2.82

crore and 2.87 crore respectively [30]. This indicates that there is a steady growth in employment in India.

The per capita income at current prices during 2011-12 is estimated to be Rs. 60,972 as compared to Rs. 53,331 during 2010-11, showing a rise of 14.3 per cent [31]. It was Rs 46,492 in 2009-10 [32].

8. Conclusions

The study has considered sales of the real estate industry as real estate sector investment and carried out a linear regression analysis by taking GDP as dependant variable and sales of the real estate industry as dependable variable. The results indicate a positive relationship between both the variables with 92.9 per cent R-Squared and 96.4 per cent correlation. Data given in table 2 reveal that the real estate industry's sale is declining. Therefore, it is essential to augment the real estate industry's sales so that growth of the economy can be improved through estate industry's backward and forward linkages.

The financial analysis of Indian real estate industry reveals that: (i) the real estate industry is yet to recover from recession; (ii) the profit generated during an accounting period against the total income generated was continuously declining during the recent years; (iii) operating profit is decreasing; (iv) returns on funds provided by its equity shareholders have declined considerably; (v) profitability as a ratio of capital employed is currently having a downward trend; there is a drastic slump in returns generated on the

total funds deployed by it in the business; (vi) there is a drastic fall in returns that the Indian real estate industry generates on the fixed assets created by it; (vii) asset utilisation points out a trend of increase in expenditure; and (viii) able to give only a bare minimum amount of returns.

The data reveals that the firms in the real estate industry were accumulating fixed assets and raw-materials before the economic slowdown (2007-08) due to expectation of a steady growth in demand in the subsequent years. Subsequently, they have reduced fixed assets and raw-material stock considerably as a result of fall in sales in 2008-09. It appears that the industry lack awareness on the business cycles and could not foresee a downturn in the economy.

The firms in the real estate industry were accumulating fixed assets and raw-materials before the economic slowdown (2007-08). This indicates the fact that the firms expected a steady growth in demand in the subsequent years. Subsequent to economic slowdown the scale of operations and sale of the real estate industry declined. The situation is further aggravated by the increase in exchange rate. Burden of interest payment of the firms increased on account of increase in exchange rate and dear money policy of the Reserve Bank of India. Therefore, they have reduced fixed assets and raw-material stock considerably as a result of fall in sales in 2008-09. It appears that the industry lack awareness on the business cycles and could not foresee a downturn in the economy.

In view of the fact that all the macro-economic factors and decisions of the economy gets reflected in the real estate industry, the firms should plan their scale of operations by taking into account the macro-economic factors of the economy as well the global economic scenario.

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