Dupont Analysis of Housing Finance Companies in India

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Abstract
Housing finance is a major driver for India's growth and economic stimulus. Housing Finance Companies" (HFC's)are specialized institutions set up for lending in housing and play a significant role in the Indian financial markets.They are non-banking financial organizations registered with the National Housing Bank (NHB) established in 1988, under the NHB Act, 1987. As per Jones Lang LaSalle report it was projected that the housing sector's contribution to the Indian GDP is expected to almost double to more than 11% by 2020 up from estimated 5-6 percent. The HFCs can enable the fulfillment of housing demands. This paper attempts to analyze the financial performance of five select HFCs for the period FY 2009 to FY 2018.In order to achieve the goal, this study has measured the ratios of ROE, applying the DuPont analysis. DuPont system of financial analysisdisaggregates performance into three components: net profit margin, total asset turnover, and the equity multiplier. For analyzing theperformance, mean, compound annual growth rate and correlation of ROE with NP Margin, Assets Turnover ratio, Equity multiplier is calculated. The findings reveal there exists a relationship of the various determinants with ROE and this decomposition of ROE suggests that private sector housing finance companies profitability can be associated with higher return from assets or higher leverage or both. Better profit of HFCs can be attributed to better asset utilization or better cost management or both simultaneously.

Keywords: *HFC's,DuPont, Return on Equity, Net Profit Margin, Equity Multiplier, ROE.*

1. Introduction ;

Housing finance industry had a sustained growth at 20% CAGR over the last 10 years, and grew exponentiallydriven by increase in disposable incomes, rapid urbanization and government impetus.Banks and housing finance companies (HFCs) control almost 90% of the Indian HF market. In the initial stages of the housing finance market, HFCs being the leader in the market garnered a market share of more than 70 %. But when commercial banks came into the market, the relative share of HFCs came down. Since 2003 onwards, the housing finance marketagain grew tremendously and HFCs also increased their market share and accounted for almost 44% of the total housing finance industry in 2018. As of March, 2017, the total housing loan portfolio which stood at a negligible amount ofRs 30,000 crores in 1997-98, grew to over Rs.18 lakh crores by 2018. There are more than 90 registered housing finance companies as on 31.03.2018, and only 20 HFC's have been granted certificates of registration to accept public deposits while the remaining do not have the permission to accept the public deposits. As per the ICRA report the top five large players account almost 75 per cent market share of the retail home loans, consisting of HDFC, LIC Housing Finance, DHFL, India Bulls housing and PNB Housing Finance.Keeping in view of the undergoing transformation of the housing finance sector in India, and its increasing role in the financial inclusion of recent times, it is imperative that the performance of the HFC's have to be studied.

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2. Review of Literature

3.

Hopkins and Hopkins (1997) strongly advocated ROE and state that ROE is the ultimate measure to ascertain the strength of any financial institution. They also pointed out that ROE can be effectively used for comparing banks differing in size and structure.

Nissim and Penman (2001) suggested using a modified version of the traditional DuPont model in order to eliminate the effects of financial leverage and other factors not under the control of those managers. Using operating income to sales and sales and assets turnover based on operating assets limits the performance measure of management to those factors over which the management has the most control. The modified DuPont model to include the ratio of total assets to equity has become widely recognized in the financial analysis literature.

Brigham and Houston, (2001) the modified model was a powerful tool to illustrate the interconnectedness of a firm's income statement and its balance sheet and to develop straight-forward strategies for improving the firm's ROE.

Hawawini and Viallet (1999) offered yet another modification to the DuPont model. This modification resulted in five different ratios that combine to form ROE. In their modification they acknowledge that the financial statements firms prepare for their annual reports (which are of most importance to creditors and tax collectors) are not always useful to managers making operating and financial decisions order to more effectively evaluate operational managers.

Soliman (2004) found that industry-specific DuPont multiplicative components provide more useful valuation than do economy-wide components, suggesting that industry-specific ratios have increased validity.

Almazari (2012) studied the financial performance of the Jordanian Arab Commercial Bank for the period 2000-2009 using DuPont analysis. It was found that the financial performance of Arab Bank was relatively steady and reflected minimal volatility in the ROE.

4. Need for the study:

Various studies have been conducted on the housing finance sector in India, due to the emergence of NHB as a regulatory body in 1988. But very few researchers have studied the evaluation of financial performance of Indian HFCs that too for a decadeof recentyears. Hence the need for the performance of the study.

5. Objectives of the study :

The general objectives of the study are to analyze the performance of housing finance companies in the private sector. Specifically the objectives of the study are:

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i. To analyze the financial performance of private HFC's in India.
ii. To determine ROE and study the correlation of the determinants ofROE of private HFCs in India.
iii.

6. Scope of the study:

The study is based on the performance evaluation of 5 HFCs, belonging to private sectorfor a specific period of 10 years from FY 2008-09 to FY 2017-18. The data was collected for only this period.

7. Research Methodology:

7.1.1 Sample Data :

The following are the list of the sample housing finance companies constituting from the private sector, which have been considered for the present study on the basis of random sampling technique. The companies that have been selected are HDFC(Housing Development Finance Corporation Ltd)GRUH (GRUH Finance Ltd) ICICIHFL (ICICI Home finance Ltd), BNP Sundaram(Sundaram B N P Paribas Home Finance Ltd)and DHFL**(**Dewan Housing finance Corporation Ltd).Also they account for more than 50 % of the housing loans outstanding of total loans outstanding of housing finance companies.

7.1.2 Sources of Data Collection: The relevant data for the study was collected from secondary sources for a period.The major sources of the data areannual reports of the HFCs and NHBreports, Government notifications, RBI Bulletins, and money control.com.

6.1.2 Frame work of analysis: Ratio analysis is a popular technique designed for performance appraisal for of an organization.Financial ratiosenable us to identify the company's unique strengths and weaknesses and focuses on calculating ratios for measuring the performance. This study is designed for performance appraisal of select HFC's with the help of ratio analysis .There are number of ratios for measuring the performance of HFC but in the present study the most popular ratios have been used. The researcher has computed with the help of all secondary data NP Margin, Assets Turnover, Equity Multiplier and Return on Equity. These computed ratios were further analyzed by computing averages (Mean) compound annual growth (CAGR)and correlation with the help of Excel.

6.1.3 DuPont Model: The researcher has taken the challenge to use this model for the financial performance of HFC's.One of the most important profitability metrics for the performance evaluation of HFC's is return on equity (ROE).

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***Return on shareholders' equity*– ROE –**measures the rate of return that the firm earns on stockholder's equity. It is the important profitability metrics for the performance evaluation of HFC's and reflects the profitability of the firm by measuring the investors` return. It is one of the most DuPont model and basically segregates the ROE into three parts: net profit margin, total assets turnover and equity multiplier.

ROE= (Net Profit/Total Income) * (Total Income/Total Assets) * (Total Assets/Shareholders' equity)

Or ROA * Financial leverage

Or ROE= (Net Profit Margin) * (Assets Turnover) * (Equity Multiplier)

***Return on Sales* /*Net Profit Margin Ratio*/*NPM*–**measures how profitable a firm's sales are after all expenses, including taxes and interest, have been deducted. It is a measure of overall profitability and operating efficiency.

***Assets Turnover Ratio* –**reveals how much profit a company earns for every rupees of its assets .i.e asset use efficiency.

Equity multiplier-The equity multiplier is also referred as leverage ratioevaluates how a firm uses its debt for financing its assets.

8. ANALYSIS & IMPLICATIONS OF DUPONT ANALYSIS

The following table 1.1 clearly presents a snap shot of the financial performance measured by the results of ROE or Return on share holders' equity of select HFC's for the period 2009 to 2018 , which has been calculated from the secondary data collected and compiled from all the annual reports of all the financial parameters required for the formulae.

TABLE 1.1
SUMMARY OF DUPONT ANALYSIS OF ALLSELECT PRIVATE HFCs
Period FY 2009 to FY 2018

Year	NP Margin%	Assets Turnover(Times)	Equity Multiplier%	ROE %	Annual Growth Rate %
	A	B	C	A*B*C	
2008-09	14.64	10.87	8.23	13.00	-
2009-10	16.81	10.02	8.12	13.68	4.24
2010-11	21.34	9.14	8.25	16.09	15.0
2011-12	20.38	11.12	7.23	16.39	1.79
2012-13	19.46	11.38	6.63	14.68	-11.60
2013-14	18.71	11.44	6.62	14.17	-3.62
2014-15	17.10	11.43	6.33	12.37	-14.53
2015-16	17.04	10.79	9.09	16.71	25.97
2016-17	21.83	9.89	8.94	19.30	13.41
2017-18	17.82	9.04	7.32	11.79	-63.68

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Mean	**18.51**	**11.13**	**9.94**	**20.48**	
CAGR %	**1.99%**	**-1.83%**	**-1.16%**	**-1.05%**	
SD	2.26	0.93	0.99	2.3	
CV	0.12	0.08	0.10	0.11	

Source: Calculated and Compiled from the data collected from all the annual reports of select HFC's

Interpretation:

The table 1.1 summarizes all the calculated results after the analysis of ten years data related to five select private HFC's. The above table exemplifies that from FY 09, the NP margin of all select HFCs which was around 14.64 % in FY 09 had increased to 17.82 % in 2017-18 with a CAGR of 1.99% for the decade , indicating that the profitability of the HFC's was in positive trend during the period of study .

The average ROE for the decade was 20.48 % with the lowest of 12.37% in 2014-15 and the highest value in the year 2016-17 at 19.30%. It can be observed that ROE was at the lowest, in 2014-15 when equity multiplier was at the lowest of 6.33 of all the HFC's and the assets turnover was higher at 11.43 times. The average of equity multiplier for the decade was 9.94 and was highest in the year 2015-16 at 9.09. The CAGR of the equity multiplier is found to be as -1.16% which indicates that leverage i.e dependence on the borrowings has been decreasing for the decade.

When the loan assets decrease, the assets turnover will obviously increase. The assets turnover ratio which was 10.87 times was at the highest in 2013-14 of 11.44 times,due to the combined effect of the increase in interest rates and property prices. This gradually fell to almost 9.04 times, during the end of the study period.

From the analysis it is found, that when the assets turnover decreased from 10.87 times toalmost 9 times in 2017, the equitymultiplier was highest at 8.94;NPM of the select HFCs was the highest at 21.83%. On the contrary, when the assets turnover increased to 11.43 timesin 2014-15 and the leverage has decreased to 6.33,NPM showed a declined value of 17.10% with the ROE remaining at the lowest of 12.37 %.

From 2008 to 2011, while the profitability in terms of NP Margin has increased from 14.64 % to 21, 34% when the interest rates started to increase in the economy, and were at the highest value in the decade. ROE of all select HFC's has also increasedfrom 16.94% in 2008-09 to 20.09 %.Both the financial indicators started slowly declining when equity multiplier was decreasing and assets turnover was increasing till 2015.Such trend of assets turnover ratio was high since the housing business was in a boom.

The mean of NPM for the period of study was at 18.51%,and the CV of net profit margin was0.12 , while the average ROE of all private sector HFCs' was 20.48% with CV 0.11 showing the precision of the value and least dispersion from the mean. This reflects minimal volatilityfor the period. On the whole the financial performance of select HFCs s is steady with ROE relatively stable during the period.

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9. Correlation analysis of the determinants of ROE

The following table 1.2 presents the correlation analysis of ROE with its three determinants. From the analysis, it can be concluded, that while NP margin and equity multiplier are positively correlated with ROE, assets turnover is inversely correlated with ROE. Also the highest correlation is between equity multiplier and ROE at 88.4 % which says that leverage is the most contributing factor for the performance of the private sector HFC's. This is because large companies like HDFC can raise more external borrowings, mobilize deposits or even can tap overseas markets at a lower cost of capital .Similarly GRUH promoted by HDFC, ICICIHFL promoted by ICICI Bank, Sundaram home finance promoted by BNP Paribas have a strong backing to raise debt with their ideal credit ratings. Also NHB norms allow HFCs to borrow 12 times their net owned funds.

Also there is an inverse correlation between NPM and assets turnover and a positive correlation between NPM and equity multiplier i.ethe higher the net profit margin, the lower the asset turnover and vice versa.Similarly the higher the leverage, higher the profitability and lower the leverage lower the profitability of HFC's. To support the above statement , from the analysis it has been found that GRUH tops among the 5 select HFC's with 11.72 times leverage with highest ROE of 27% during the study period .Thus DuPontanalysis clearly indicates whether its profitability, use of assets or debt that's driving ROE of the private sector HFC's in India.

Table 1.2 Correlationmatrix of the determinants of ROE of the private HFC's

Financial Indicators	ROE	NPM	Assets Turnover	Equity Multiplier
ROE	1			
NPM	0.383864	1		
Assets Turnover	-0.75219	-0.26719	1	
Equity Multiplier	0.884178	0.046944	-0.49491	1

Source: Calculated and Compiled.

9. Conclusion and Suggestions:

The business model of HFC's is purely based on mobilization of funds and earning spread margin. So it is the need of the hour that they have to identify the drivers of financial success under alternative business strategies.It was found from the analysis that the financial performance of select private sector HFC's isquite steady and displays aminimal volatility in the ROE and Net profit margin.

From the above analytical study, it is concluded that the correlation between ROE, NPM and assets turnover is negative, indicating that higher utilization of assets does not lead to necessarily high level profitability ratio and higher investors return on share holders' funds. In simple high

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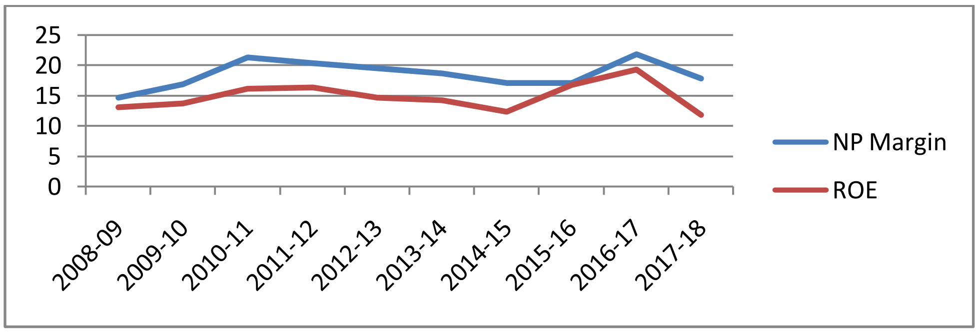
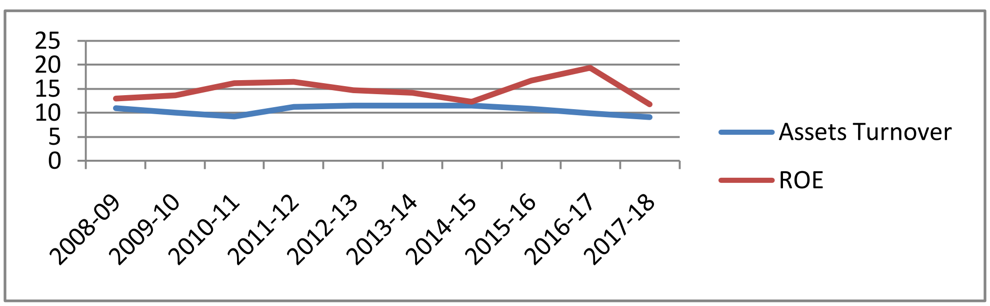
margin HFCs companies have low asset turnover and low margin HFCs are trending to have a higher asset turnover ratio. Thus HFC's with high net operating income to sales and low asset turnover should pursue a differentiation strategy and those with high relative operating asset turnover and low relative net operating income to sales should pursuing a cost leadership strategy .They should also improve any or all of these elements of DUPONT analysis to increase value and returns to shareholders through its cost management , choices of financing and the strategy of usage of assets.

The following charts display the trend of the determinants of DuPont analysis in 1.1 1.2 1.3 respectively given below

1.1 EXHIBIT OF TREND OF DETERMINANT NPM & ROE OF SELECT HFC's FY 09-FY 18



1.2 EXHIBIT OF TREND OF DETERMINANT ASSETS TURNOVER & ROE OF SELECT HFC's FY 09-FY 18



1.3 EXHIBIT OF TREND OF DETERMINANT EQUITY MULTIPLIER & ROE OF SELECT HFC's FY 09-FY 18

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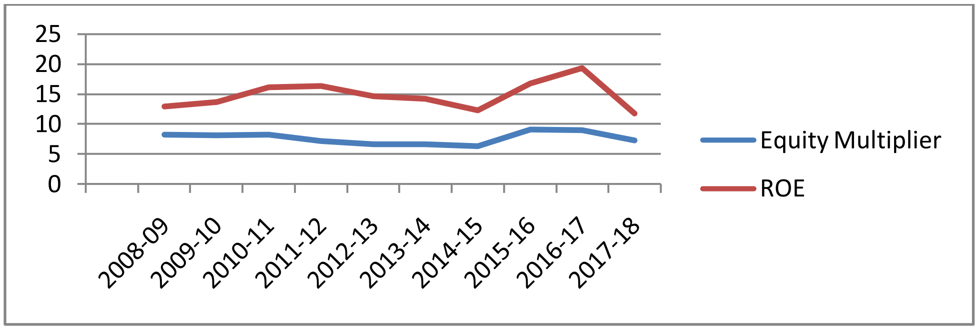

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