

# LIQUIDITY ANALYSIS: AN EMPIRICAL STUDY TOWARDS SELECTED HOUSING FINANCE COMPANIES IN INDIA

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*Abstract:* Liquidity is an ability of a firm to meet its short-term obligations. The importance of liquidity to the company performance may lead to the conclusion that it determines the profitability level of company. Ample Liquidity and good profitability are the pre-requisites for the survival of every firm. Hence this study an attempt has been made to analyse the liquidity position between the selected companies and this articles explores the consistency in the liquidity among the selected housing finance companies in India. A very high degree of liquidity is also bad; idle assets earn nothing. The firm's funds will be unnecessarily tied up in current assets. Therefore it is necessary to strike a proper balance between high liquidity and lack of liquidity In this article the researcher has selected nine housing finance companies as per their total asset and they are HDFC, LIC HF, INDIA BULLA, DEWAN HOUSING FIN, CAN FIN, GIC HOUSING FIN, PNB, GRUH and REPCO. The study has been carried out for fourteen years period from 2003-04 to 2012-17. The study highlights that liquidity position of DEWAN HOUSING FINANCE LTD (DHFL) is the better than other selected housing Finance companies. As per the previous reviews identified the ratios to measure the liquidity are current ratio, quick ratio, Dividend payout ratio, and Earning Retention Ratio and Cash Earning Retention ratio. The study revealed that the Earning Retention ratio and Cash Earning Retention Ratio are having homogeneous variances compare other ratio among the selected housing finance companies. The statistical tools carried out in the analysis are One-way ANOVA, Tukey's multiple comparisons and Homogeneous subsets along with descriptive statistics in which mean, Standard deviation and Coefficient variance are highlighted.

*Key words:* Liquidity, consistency, Earning Retention ratio, Cash Retention ratio

## I. INTRODUCTION

The liquidity in the housing finance companies represent the ability to fund its obligations by the contractor at the time of maturity, which includes lending and investment commitments, withdrawals, deposits and accrued liabilities. Liquidity management takes one of two forms based on the definition of liquidity. One type of liquidity refers to the ability to trade an asset such as stock or bond at its current price. The other definition of liquidity refers to large organizations such as financial Institutions

It is extremely essential for a firm to be able to meet its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligations. Infact, analysis of liquidity needs the preparation of cash budgets and cash and fund flow statements; but liquidity ratios by establishing the relationship between cash and other current assets to current obligations, provide a quick measure of liquidity.

A firm should ensure that it does not have excess liquidity. The failure of a company to meet its obligations due to lack of sufficient liquidity will result in poor credit worthiness, loss of creditors confidence or even legal tangles resulting in the closure of the company. A very high degree of liquidity is also bad; idle assets earn nothing. The firm's funds will be

unnecessarily tied up in current assets. Therefore it is necessary to strike a proper balance between high liquidity and lack of liquidity.

## 2. THE CONCEPT OF LIQUIDITY:

Liquidity is a financial term that means the amount of capital that is available for investment. Today, most of this capital is credit, not cash. Bank Liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements.

Nwaezeaku (2008) defined liquidity as the degree of convertibility to cash or the ease with which any asset can be converted to cash (sold at a fair market price).

Liquidity management therefore involves the strategic supply or withdrawal from the market or circulation the amount of liquidity consistent with a desired level of short-term reserve money without distorting the profit making ability and operations of the bank. It relies on the daily assessment of the liquidity conditions in the banking system, so as to determine its liquidity needs and thus the volume of liquidity to allot or withdraw from the market. The liquidity needs of the banking system are usually defined by the sum of reserve requirements imposed on banks by a monetary authority (CBN 2012).

Finance is like blood in our body so long as blood-circulate properly in the body; we feel healthy and have capacity to work. If circulation is not proper, It will put effect on the functioning of the body, similarly it will be difficult for business concern to take financial decision related to the determination of the amount of long-term finance required and the sources from which such finance is to be raised. The optimum capital structure should be determined by keeping in mind the long-term and short-term requirement of finance. No doubt the investment decision is very much important from the long-term point of view aid in the changing spectrum of business. A business organization has to face quite often the problem of capital investment decision, because investment in this project has quite heavy and have to be made immediately, but the returned will be available in the long run. For replacement expansion diversification, research and development investment decision are most crucial and critical, but the availability of short-term fund in most in liquid form is also very important. The small, but very important short-term transactions need availability of sufficient liquid resources. Short-term solvency much depends upon the availability of liquid resources as per short-term availability as short-term requirements. No businessman can aspire to keep surplus fund in the business but while developing these surplus funds he has to estimate its short-term requirements. Liquidity effects over short-term capacity to pay day to day say routine transaction. Thus, we say that businessmen want to hold imbalance a sufficient quantity of liquid assets. So that undue solvency risks are not imposed on it. This is a logical approach indicating quantitative amount of liquid resources. Thus, the modern business atmosphere financial experts have to consider a minimum amount of liquid capacity in the business appries management in estimating property that prospects needs. Insufficient liquid resources may cost a black shadow on goodwill of the concern because the ability to pay short-term liability may be doubted by the external parties. Thus the concept of liquidity comes in the light of proper financial functioning to the business.

### 3. REVIEW OF LITERATURE

- **Smith (1980)** conducted a study on Profitability and Liquidity and suggested that working capital management directly influence risk and profitability of a firm. Hence it can be inferred that effective working capital management can increase the financial strength of a business.
- Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. Some of the striking corporate goals include the need to maximize profit, maintain high level of liquidity in order to guarantee safety, attain the highest level of
- Owner's net worth coupled with the attainment of other corporate objectives. The importance of liquidity management as it affects corporate profitability in today's business cannot be over emphasised. The crucial part in managing working capital is required maintenance of its liquidity in day-to-day operation to ensure its smooth running and meets its obligation (**Eljelly, 2004**). Liquidity plays a significant role in the successful functioning of a business firm.
- A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business (**Bhunia, 2012**).
- Dilemma in liquidity management is to achieve desired trade-off between liquidity and profitability (**Nahum et al, 2007**). This study seeks among other things, to investigate the problems of bank liquidity management in order to determine its effect on bank profitability.
- **Lazaridis and Tryfonidis (2006)** investigated the relationship of corporate profitability and working capital management for firms listed at Athens Stock Exchange. They reported that there is statistically significant relationship between profitability measured by gross operating profit and the Cash Conversion Cycle. Furthermore, Managers can create profit by correctly handling the individual components of working capital to an optimal level.

### 4. OBJECTIVES OF THE STUDY

- 1) To analyse the liquidity position of selected Housing Finance companies in India.
- 2) To assess the consistency in liquidity of selected housing Finance companies in India

### 5. RESEARCH METHODOLOGY:

The financial data and relevant information required for the study are drawn from the various secondary sources. The Prowess' corporate databases developed by CMIE (Centre for Monitoring Indian Economy) and CLP (Capital Line Plus) have been used as principal sources. The other relevant data are collected from Journals, Magazines, Dailies namely The Financial Express and The Economic Times.

#### 5.1 ANALYSIS OF VARIANCE (ANOVA)

Analysis of variance (ANOVA) is an extremely useful technique which is used for testing difference among difference groups of the data for homogeneity. The essence ANOVA is that the total amount of variation in a set of data is broken down into two types, that amount which can be attributed to chance and that amount which can be attributed to specified causes. There may be variation between samples and also within sample items. ANOVA consists in splitting the variance for analytical purposes. Hence, it is a method of analyzing the variance to which a response is subject into

its various components corresponding to various sources of variation. Thus, through ANOVA we can investigate any number of factors which are hypothesized and said to influence the dependant variable. One may as well investigate the difference amongst various categories within each of these factors which may have a large number of possible values. There are two techniques of applying ANOVA. One is called One-way ANOVA and the other is called Two-way ANOVA.

Under one-way ANOVA, we consider only one factor and we test the homogeneity variance between the sample means of selected groups. In this article I have taken the liquidity ratios of selected Housing Finance companies and tested the significant difference between the means liquidity ratios of selected Housing Finance companies.

## 5.2 MULTIPLE COMPARISONS (POST HOC MULTIPLE COMPARISONS) :

In doing a single factor analysis of variance, we test the null hypothesis  $H_0: \mu_1 = \mu_2 = \dots = \mu_n$  and so on. However, if we reject the null hypothesis, it does not mean that all population means are different from one another. Further, we do not know how many means are different from one another and where the differences are located among the given number of different population means. This problem is tackled by multiple comparison tests. Multiple comparisons are desired for one way ANOVA. In general, multiple comparison tests for means have the same underlying assumptions like analysis of variance, namely, population is normally distributed and variance is homogeneous. In all multiple comparisons testing, equal sample sizes are desirable, but sometimes it is performed with unequal samples also.

The conclusions on multiple comparison testing depend on the order in which the pair-wise comparisons are considered. The proper procedure is to first compare the largest mean against the smallest, then the largest against the next smallest and so on, until the largest can be compared with the second largest. Then one compares the second largest with the smallest, the second largest with the next smallest and so on.

There are a number of multiple comparison tests, yet there is no agreement as to the best procedure to routinely employ. The most widely and commonly used tests are Tukey test, Newman-Keuls Test, and Duncan test, often referred to as "Duncan Multiple Range Test". Sometimes multiple comparisons tests will yield ambiguous conclusions in the form of overlapping sets of similarities. In some cases, for example, sample 1 and 2 form a single subset indicating that both samples come from Population 1 and samples 2, 3, and 4 form a single subset indicating that these three samples have come from population 2. In this case, sample 2 is assigned to population 1 and population 2, which is impossible. Thus we can only state that  $\mu_1 \neq \mu_2 \neq \mu_4$  but we cannot conclude how  $\mu_2$  is related to  $\mu_1$ ,  $\mu_3$  and  $\mu_4$ . In this situation, raising the sample size (larger number of data) would give an appropriate conclusion. If the sample size is larger, then results of multiple comparison tests would locate differences among means. One limitation of multiple comparison tests is its inability to determine the position of some means accurately.

**TUKEY TEST MULTIPLE COMPARISON TEST :** This test is a much-used multiple comparison test. It consists of a null hypothesis  $H_0: \mu_B = \mu_A$  versus alternate hypothesis  $H_1: \mu_B \neq \mu_A$ . For example, if there are 4 groups (1, 2, 3, and 4), Tukey's test compares 1 and 2, 1 and 3, 1 and 4 and then 2 and 1, 2 and 3, and 2 and 4 and so on. Tukey's test, also known as the Tukey range test, Tukey method, Tukey's honest significance test, Tukey's HSD. From the results so far we know that there are significant differences between the current ratios of the selected housing finance companies as a whole.

## 5.3 SAMPLE AND SAMPLING:

According to the Prowess corporate database developed by CMIE, (Centre for Monitoring Indian Economy) there are 20 housing finance companies operating in India and listed in both Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). Out of 20 housing finance companies, 9 housing finance companies are having the total asset above 500 crores and 10

years data are available for all the 09 companies . So they were selected as sample units for the present study. The following are the sample housing finance companies which have been considered for the present study

**TABLE 1 LIST OF HOUSING FINANCE COMPANIES SELECTED FOR THE STUDY**

SL.NO	COMPANY NAME	TOTALASSETS
1	HDFC Housing	181,367.67
2	LIC Housing Fin	104,449.29
3	Indiabulls Hsg	58,280.66
4	Dewan Housing	56,297.99
5	PNB Housing Fin	24,144.12
6	Can Fin Homes	9,503.40
7	GRUH Finance	8,834.71
8	GIC Housing Fin	6,861.11
9	Repc Home	6,460.46

Source: CMIE

#### 5.4 HYPOTHESIS FRAMED:

- 1)  $H_0$  : There is no significant difference between the means of Current Ratios of selected housing finance companies in India.  
 $H_0$  : There is an equality of variance in the Current Ratio of selected housing finance companies in India.
- 2)  $H_0$  : There is no significant difference between the means of quick ratios of selected housing finance companies in India.  
 $H_0$  : There is an equality of variance in the quick ratio of selected housing finance companies in India.
- 3)  $H_0$  : There is no significant difference between the means of Dividend Payout ratios of selected Housing finance companies in India.  
 $H_0$  : There is an equality of variance in DPR of selected Housing Finance companies in India.
- 4)  $H_0$ : There is no significance difference the means of Earning Retention Ratios between the selected housing finance companies in India.  
 $H_0$  : There is an equality of variance in Earning retention ratio between the selected Housing Finance companies in India.
- 5)  $H_0$  : There is no significance difference the means of Cash Earning Retention Ratios between the selected housing finance companies in India  
 $H_0$  : There is an equality of variance in Cash Earning retention ratio between the selected Housing Finance companies in India.

Table No: 1 Descriptive statistics of Liquidity ratios for selected housing Finance companies in India.

HF company	Current Ratio			Quick ratio			Dividend payout ratio			Earning Retention Ratio			Cash Earning Retention ratio		
	Mean	S.D	C.V(%)	Mean	S.D	C.V(%)	Mean	S.D	C.V(%)	Mean	S.D	C.V(%)	Mean	S.D	C.V(%)
HDFC	5.27	5.43	97.05%	5.27	5.43	97.05%	35.59	8.89	24.98%	64.41	8.89	13.81%	64.75429	8.79144	13.58%
LIC HF	5.27	5.43	97.05%	5.27	5.43	97.05%	35.59	8.89	24.98%	64.41	8.89	13.81%	64.75429	8.79144	13.58%
CAN FIN	12.32	13.87	88.82%	12.32	13.43	91.73%	16.311	6.77	41.51%	76.55	22.57	29.48%	76.88143	22.61153	29.41%
GRUH	10.69	13.46	79.42%	10.67	13.43	79.45%	31.72	9.71	30.61%	61.14	17.90	29.28%	61.93643	18.08976	29.21%
DEWAN	43.06	25.58	168.33%	43.056	25.583	168.30%	23.64	10.022	42.39%	76.36	10.02	13.12%	77.14556	9.431526	12.23%
GIC	1.11	1.57	70.70%	1.11	1.57	70.70%	28.23	10.302	36.49%	64.63	19.65	30.40%	65.49714	20.13753	30.75%
INDIA BULLS	3.95	4.96	79.64%	3.95	4.96	79.64%	27.872	31.054	111.42%	62.13	36.67	59.03%	62.334	36.54265	58.62%
REPCO	1.55	2.02	76.73%	1.552	2.02	76.83%	4.669	4.046	86.66%	85.33	30.21	35.40%	85.456	30.24124	35.39%
PNB	9.65	15.88	60.77%	12.71	19.48	65.25%	9.62	4.002	41.60%	79.27	29.78	37.56%	79.44333	29.836	37.56%

Source: SPSS descriptive Statistics

Table 2: ANOVA of selected ratios for selected Housing Finance companies

Ratio		Sum of Squares	df	Mean Square	F	Sig.
Current ratio	Between Groups	12783.27	8	1597.909	11.152	<b>0.0000</b>
	Within Groups	14184.66	99	143.279		
	Total	26967.94	107			
Quick Ratio	Between Groups	12782.63	8	1597.829	11.16	<b>0.0000</b>
	Within Groups	14174.36	99	143.175		
	Total	26956.99	107			
Dividend Payout Ratio	Between Groups	11334.65	8	1416.831	9.341	<b>0.0000</b>
	Within Groups	15015.47	99	151.671		
	Total	26350.12	107			
Earning Retention Ratio	Between Groups	7063.883	8	882.985	1.897	<b>0.0690</b>
	Within Groups	46077.01	99	465.424		
	Total	53140.89	107			
Cash Earning Retention Ratio	Between Groups	6866.274	8	858.284	1.837	<b>0.0790</b>
	Within Groups	46264.26	99	467.316		
	Total	53130.53	107			

Source : SPSS output

Table No 3: Test of Homogeneity of variance (Levine's Test)

Ratio	Levene's Statistic	df1	df2	Sig.
Current Ratio	12.891	8	99	0
Quick Ratio	12.891	8	99	0
Dividend Pay out Ratio	14.304	8	99	0
Earning Retention Ratio	2.699	8	99	0.01
Cash Earning Retention Ratio	2.668	8	99	0.011

Source : SPSS output

## 6 ANALYSIS AND RESULTS & DISCUSSIONS:

### 6.1 COMPARISON OF CURRENT RATIOS BETWEEN SELECTED HOUSING FINANCE COMPANIES:

The Table No 1 is derived from the descriptive statistics of the current ratio for selected housing finance companies. The mean values of current ratios are mentioned in the above table. The highest mean value of current ratio is for Dewan Housing Finance Company and is least is for GIC Finance Company. The C.V is highest for Dewan Housing Finance Company and it is very less for PNB Housing Finance Company that means there is high variability and less consistency in the current ratios of DEWAN Housing Finance Company and for PNB it is high consistency and less variable compare to other housing finance companies.

The table 2 shows the output of ANOVA analysis and the table 3 gives the result of Levene's statistic for testing the homogeneity of variance. The result of ANOVA is given in the above table. The p-value given under the column sig is 0.000. Since the p value 0.000 is less than 0.05, we reject null hypothesis. Therefore we conclude that there is significance difference between the means of current ratios of selected housing finance companies in India. The significance value p in the Levene statistic is 0.000 (in the table 3) which is less than 0.05 ( $p < 0.05$ ). Hence the null hypothesis will be rejected. Therefore there is no homogeneity of variance in the current ratio of selected housing finance companies in India.

As per the current ratio of selected housing finance companies two homogeneous subsets are formed. Subset 1 includes HDFC, LIC HF, and INDIA BULLS, CAN FIN, GIC, GRUH and PNB .The subset 2 included one company DEWAN HOUSING FINANCE.

### 6.2 COMPARISON OF QUICK RATIOS BETWEEN SELECTED HOUSING FINANCE COMPANIES:

The table 1 shows the descriptive statistics, as per the descriptive analysis Dewan Housing Finance has the highest quick ratio and GIC has the least quick ratio. The descriptive statistics explains the statistical parameters mean, SD in all Quick Ratio for all the housing Finance companies (From Table 1).

The table 2 shows s output of ANOVA and Levine's statistics for testing the homogeneity of variance. The result of ANOVA is given in the table .The p value given under the column 'sig' is 0.000. Since the sig value 0.000 is less than 0.05. Therefore null hypothesis will be rejected. Therefore there is significant difference between the means quick ratios of selected Housing Finance in India.

In the table 3 the significant value p in the Levine's statistic is 0.000 which is less than 0.05 ( $p < 0.05$ ) .Hence the null hypothesis will be rejected. Therefore there is no equality of variance in the quick ratios of selected Housing Finance companies in India.

As per Tukey's multiple comparisons of quick ratios between the selected housing finance companies in India. It is notice that there is no significant difference between the quick ratios of selcted housing Finance companies in India, except with Dewan Housing Finance .The quick ratio of Dewan Housing Finance having a significant difference with all selected Housing Finance companies in India.

### 6.3 COMPARISON OF DIVIDEND PAYOUT RATIOS BETWEEN SELECTED HOUSING FINANCE COMPANIES:

The table 1 shows the descriptive statistics, as per the descriptive analysis HDFC and LIC HF have the highest Dividend Payout Ratio. PNB housing Finance has least Dividend payout ratio. Even India Bulls have the less DPR compare to few other selected housing finance companies; there is highest stability in the dividend payout ratios of India Bull housing Finance company. Whereas LIC HF and HDFC are having Highest DPR but their persistency in DPR is very less compare to other selected housing finance companies.

The table 3 shows the results of Levine's statistic and the significant value 'p' in Levine's Statistic is 0.000 which is less than 0.05. Hence we reject the null hypotheses. Therefore there is no equality of variance between the DPR of selected housing finance companies in India.



As per the results of ANOVA, the null hypotheses rejected, it means there is significant difference between the mean values of Quick ratios of selected housing finance companies. So, it is better to know the relationship between individual; company with other company.

As per the Turkey's multiple comparisons of DPR of selected housing finance companies in India. There is significant difference between Can Fin & LIC, GRUH & Can Fin, REPCO & HDFC, REPCO & LIC, PNB & HDFC, PNB & LIC HF, PNB & GRUH, PNB & GIC and PNB & REPCO.

The above output gives the Homogeneous subsets. As per the Dividend per of selected housing finance companies four homogeneous subsets are formed. Subset 1 includes REPCO, PNB, CanFin; Subset 2 includes PNB, CanFin and DEWAN; Subset 3 includes CAN FIN, DEWAN, INDIA BULLS, GIC and GRUH; Subset 4 includes DEWAN, INDIA BULLS, GIC, GRUH, HDFC AND LIC HF.

CAN FIN is in subset one and two. This means the DPR values of Can Fin are homogenous with all the companies belongs to both subset 1, 2 and 3. DEWAN is in subset one and two. This means the DPR values of DEWAN are homogenous with all the companies belong to both subset 2, 3 and 4.

There is no significant difference between the Dividend payout ratios of India Bull with all selected Housing Finance companies in India.

#### **6.4 COMPARISON OF EARNING RETENTION RATIOS BETWEEN SELECTED HOUSING FINANCE COMPANIES:**

The table 1 shows the descriptive statistics of Earning Retention ratio for the selected housing finance companies in India. The earnings Retention for PNB housing finance is high compare to all selected housing Finance companies in India. The mean Earning Retention ratios of Gruh housing Finance company are least with compare to other selected housing Finance companies in India. The coefficient of variation is high for India Bull Housing Finance than all selected housing finance companies and very least for Dewan Housing Finance Company. Therefore we can conclude that the earning retention ratios of Dewan Housing Finance are less variable and more stable with compare all selected housing Finance companies in India.

The table shows 2 the output of ANOVA analysis and the Levine's Statistics for testing the homogeneity of variance in Earning Retention ratio between the selected housing finance companies in India. The result of ANOVA analysis given in the AOVA table. The p-value under the column 'sig' is 0.069 which is greater than 0.05. Hence we accept the null hypothesis. Therefore there is no significance difference between the Earning Retention ratios of selected housing Finance companies in India.

From the table 3 significant value p (0.010) is less than 0.05 in the Levene's Homogeneous test of variance; hence we reject the null hypotheses. Therefore there is no equality variance in Earning Retention Ratios between the selected housing Finance companies in India.

#### **6.5 COMPARISON OF CASH EARNING RETENTION RATIOS BETWEEN SELECTED HOUSING FINANCE COMPANIES:**

The table 1 shows the descriptive statistics of Earning Retention ratio for the selected housing finance companies in India. The earnings Retention for PNB housing finance is high compare to all selected housing Finance companies in India. The mean Earning Retention ratios of Gruh housing Finance company are least with compare to other selected housing Finance companies in India. The coefficient of variation is high for India Bull Housing Finance than all selected housing finance companies and very least for Dewan Housing Finance company. Therefore we can conclude that the earning retention ratios of Dewan Housing Finance are less variable and more stable with compare all selected housing Finance companies in India.

The table shows 2 the output of ANOVA analysis and the Levine's Statistics for testing the homogeneity of variance in Cash Earning Retention ratio between the selected housing finance companies in India. The result of ANOVA analysis given in

the ANOVA table .The p-value under the column 'sig' is 0.069 which is greater than 0.05.Hence we accept the null hypothesis. Therefore there is no significance difference between the Earning Retention ratios of selected housing Finance companies in India.

From the table 3 significant value p (0.010) is less than 0.05 in the Levine's Homogeneous test of variance; hence we reject the null hypotheses. Therefore there is no equality variance in Cash Earning Retention Ratios between the selected housing Finance companies in India.

## 7. CONCLUSIONS :

Liquidity is very much important for the sustainability of the housing finance industry. The level of liquidity is varying in all selected housing finance companies. DEWAN HOUSING FINANCE showing much more liquidity compare to other selected housing finance company.PNB housing Finance shown much more consistency in Liquidity.

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