



# Impact of Receivables Management on Profitability of Selected Housing Finance Companies in India

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## Abstract

The purpose of the study investigates the impact of receivable management on the firm's profitability and relationship between receivable management and firm's profitability. Receivables in every firm should be managed efficiently and effectively to obtain timely payment of debt. Receivable management is expected to contribute to increase in profitability in firm. The study is based on data of thirteen Housing Finance Companies in India which are taken from the list of HFCs provided by National Housing Bank. Secondary data has been collected from Annual Report of the respective companies for the year from 2011-2012 to 2018-2019. The ratio analysis is used to evaluate the financial performance of the Housing finance service companies. Five receivables management indicators, namely, size of receivables, receivables to turnover, receivables to net worth, receivables to total assets and receivables to working capital are taken as independent variables and the return on assets has been taken as a profitability indicator. The study is based on panel data methodology and panel data regression analysis has been used. Empirical results reveals that both size of receivables and receivables to turnover is negatively and significantly related to the profitability but receivables to total assets is negatively and significantly related to the profitability.

**Keywords:** Receivables management, profitability, housing finance company, India, panel regression analysis.

## 1. Introduction

The Indian Housing Finance Industry has been emerged as a core sector in the Indian economy. This industry mainly comprises of commercial banks, housing finance companies and cooperative sector institutions. It contributes to national income by increasing the employment opportunities and many allied industry such as cement, steel etc. depends on it. Hence, it has occupied an important place in policy making of progressive government.

Housing finance companies had dominated the housing finance market up to the year 1991 but due to changes in policy of deregulation financial sector, commercial bank entered the market and provided a stiff competition to HFCs. To survive the pressure of stiff competition, HFCs needs the strong financial efficiency.

The efficient management of receivables would ensure the timely payment of principal amount and interest by receivables. Receivables are one of the most important components of working capital. According to nature of business, the investment in receivables can be large or small (Ksenija, 2013). In India, trade debtors are the second major component of current assets and its form one-third of current assets. The firm's fund gets blocked due to providing goods and services on credit to customers. So, this gap needs to be financed with the help of funds from banks or other sources. As the receivables or trade debtors account involves huge investment it needs the careful analysis and proper management (Pandey, 1999). Receivables management aims to control the receivable accounts in order to minimize the loss due to default payment. (Kaur, 2017). The cut-throat competition in the housing finance market makes it necessary to evaluate the financial performance of HFCs (Manoj, 2016)

## 2. Literature review

Jeyachitra et al. (2010) examined whether the sampled companies are able to manage their receivables by taking a sample of 10 carefully chosen cement companies from India for the years 2001 to 2008. The effectiveness of receivables management was evaluated with the aid of ratio analysis and ANOVA. The study came to the conclusion that the cement industry's receivables were managed effectively, and they also expected an increase in profit due to future sales prediction, sales turnover, and profit. Hitesh & Shukla (2007) used working capital ratios and the ANOVA test to analyse the receivable management of sample companies for the years 1997 to 2006 in their study, "A Study of Receivable Management of Indian Pharmaceutical Industry." The researchers discovered that the groups of the sample companies had meaningful relationships both between and within them. The survey found that the pharmacy industries managed their receivables effectively. Ramana et al. (2013) conducted research on the effects of receivables management on working capital and profitability at a subset of Indian cement companies. From 2001 to 2010, they gathered information from the annual reports of the chosen cement businesses. To determine how receivables management affected working capital management and profitability, they employed ANOVA. They also looked into the effectiveness of managing receivables. They discovered that the management of receivables was more effective overall in the cement sector. In ksenija (2013), he looks into how public businesses in the republic of Serbia listed on the regulated market handle their accounts receivable amid hard times. A sample of 108 businesses is taken. The policies governing accounts receivable are looked at during the 2008–2011 financial crises. The study examines the short-term effects and finds a positive, although insignificant, correlation between accounts receivables and the two profitability dependent variables, return on total assets and operational profit margin. This shows that during times of crisis, receivables' effects on a company's profitability change. Deloof (2003) discovered a substantial inverse relationship between gross operating income and the duration of Belgian companies' inventories, accounts receivables, and accounts payables. These findings indicated that managers might increase value for their shareholders by keeping the number of days' worth of inventories and accounts receivables to a manageable level. The idea that less profitable companies delay paying their invoices longer is incompatible with the negative link between accounts payable and profitability.

### 3. Objectives of the study

(i) To find out the relationship between receivables management and profitability of selected HFCs.

(ii) To find out the impact of receivables management on profitability of selected HFCs.

### 4. Research methodology

The study is based on purposive sampling design. The selection of HFCs have been done on the from two criteria, such as, a) HFCs are registered with National Housing Bank and eligible to accept public deposits and b) HFCs are registered with National Housing Bank but they need to take permission before the acceptance of public deposits. Companies selected are Can Fin Homes Limited, DHFL- Aadhar, GIC, HDFC, HUDCO, ICICI, IND Bank Housing Limited, LIC, Manipal Housing Finance Syndicate Limited and PNB Housing Finance Limited. The study relates to a period of 8 years, starting from 2011-12 and ending on 2018-19. The secondary data has been collected from published annual reports of the respective HFCs. In the course of analysis in this study, various accounting and statistical tools and techniques have been used. Accounting techniques include ratio analysis, while among statistical techniques panel data regression analysis is used. Hausman test is also done.

### 4. Data analysis and interpretation

#### 4.1 Correlation statistics

It is required to ascertain the correlation between the various variables included in the analysis prior to performing a panel regression test. Correlation statistics is used to determine whether there is a relationship between profitability indicators (NP, OP, ROA, and ROE) and working capital indicators (CR, QR, CPR) and receivable management indicators (SR, RTR, RTW, RTA, and RTWCR).

**Table – 1: Correlation Statistics**

	SR	RTR	RTWR	RTAR	RTWCR	CR	QR	CPR	NPR	OPR	ROA	ROE
SR	1											
RTR	-.11 (.23)											
RTWR	-.27** (.00)	-.09 (.32)	1									
RTAR	.06 (.49)	.02 (.82)	.07 (.44)	1								
RTWCR	-.14 (.13)	.01 (.88)	-.08 (.41)	-.01 (.89)	1							
CR	-.04 (.67)	.01 (.94)	-.06 (.52)	-.17 (.08)	.01 (.88)	1						
QR	-.04 (.67)	-.03 (.75)	.12 (.20)	-.02 (.84)	.12 (.23)	.27** (.00)	1					
CPR	-.08 (.40)	-.05 (.62)	-.05 (.56)	-.27** (.00)	.01 (.86)	.67** (.00)	.19 (.05)	1				
NPR	-.23* (.01)	.05 (.54)	.07 (.46)	.25** (.00)	-.01 (.84)	.03 (.78)	.05 (.58)	-.00 (.97)	1			
OPR	.16 (.08)	-.04 (.63)	-.02 (.80)	-.03 (.74)	-.01 (.94)	-.03 (.73)	-.01 (.87)	-.01 (.94)	-.38** (.00)	1		
ROA	-.23* (.01)	.05 (.55)	.07 (.46)	.25** (.01)	-.02 (.84)	.03 (.76)	.05 (.58)	-.01 (.99)	1.00** (.00)	-.38** (.00)	1	
ROE	.04 (.66)	-.14 (.16)	-.06 (.54)	.03 (.75)	.03 (.77)	.06 (.52)	-.03 (.70)	-.08 (.41)	.15 (.12)	-.10 (.30)	.15 (.12)	

NPR is positively correlated with RTR, RTWR, RTAR, CR, and QR, according to Table 1. RTAR is statistically significant at the level 5% among them. NPR has a bad relationship with SR, RTWCR, and CPR. Of which SR is statistically significant at the level of 1%. Once more, OPR has negligible negative relationships with RTR, RTWR, RTAR, CR, QR, RTWCR, and CPR, but negligible positive relationships with SR. These show that OPR does not significantly affect the indices of receivables management and working capital of the sample housing finance enterprises. Once again, RTR, RTWR, RTAR, RTWCR, CR, and QR are all positively correlated with ROA. RTAR is one of these variables that is 1% significant. Insignificantly correlated with CPR is ROA, which has a negative relationship with SR at a level of 5%. Furthermore, statistical analysis shows that ROE has statistically insignificant positive relationships with SR, RTAR, RTWCR, and CR, but statistically insignificant negative relationships with RTR, RTWR, QR, and CPR. These show that ROE does not significantly affect the metrics of receivables management and working capital of the sample home financing enterprises.

The regression analysis used in this study is based on the following equations:

Model 1:

$$\text{NPR}_{it} = \beta_0 + \beta_1(\text{SR}_{it}) + \beta_2(\text{RTR}_{it}) + \beta_3(\text{RTWR}_{it}) + \beta_4(\text{RTAR}_{it}) + \beta_5(\text{RTWCR}_{it}) + \beta_6(\text{CR}_{it}) + \beta_7(\text{QR}_{it}) + \beta_8(\text{CPR}_{it}) + \eta_i + \varepsilon_{it}$$

Model 2:

$$\text{OPR}_{it} = \beta_0 + \beta_1(\text{SR}_{it}) + \beta_2(\text{RTR}_{it}) + \beta_3(\text{RTWR}_{it}) + \beta_4(\text{RTAR}_{it}) + \beta_5(\text{RTWCR}_{it}) + \beta_6(\text{CR}_{it}) + \beta_7(\text{QR}_{it}) + \beta_8(\text{CPR}_{it}) + \eta_i + \varepsilon_{it}$$

Model 3:

$$\text{ROA}_{it} = \beta_0 + \beta_1(\text{SR}_{it}) + \beta_2(\text{RTR}_{it}) + \beta_3(\text{RTWR}_{it}) + \beta_4(\text{RTAR}_{it}) + \beta_5(\text{RTWCR}_{it}) + \beta_6(\text{CR}_{it}) + \beta_7(\text{QR}_{it}) + \beta_8(\text{CPR}_{it}) + \eta_i + \varepsilon_{it}$$

Model 4:

$$\text{ROE}_{it} = \beta_0 + \beta_1(\text{SR}_{it}) + \beta_2(\text{RTR}_{it}) + \beta_3(\text{RTWR}_{it}) + \beta_4(\text{RTAR}_{it}) + \beta_5(\text{RTWCR}_{it}) + \beta_6(\text{CR}_{it}) + \beta_7(\text{QR}_{it}) + \beta_8(\text{CPR}_{it}) + \eta_i + \varepsilon_{it}$$

Where,

$\text{SR}_{it}$  = Size of Receivables of Housing Finance Companies  $i$  in year  $t$ ;

$\text{RTR}_{it}$  = Receivables to Turnover Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{RTWR}_{it}$  = Receivables to Net Worth Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{RTAR}_{it}$  = Receivables to Total Asset Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{RTWCR}_{it}$  = Receivables to Working Capital Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{CR}_{it}$  = Current Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{QR}_{it}$  = Quick Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{CPR}_{it}$  = Cash Position Ratio of Housing Finance Companies  $i$  in year  $t$ ;

$\text{NPR}_{it}$  = Net Profit to Receivables of Housing Finance Companies  $i$  in year  $t$ ;

$\text{OPR}_{it}$  = Operating Profit to Receivables of Housing Finance Companies  $i$  in year  $t$ ;

$\text{ROA}_{it}$  = Return on Assets of Housing Finance Companies  $i$  in year  $t$ ;

$\text{ROE}_{it}$  = Return on Equity of Housing Finance Companies  $i$  in year  $t$ ;

$\eta_i$  = Unobservable heterogeneity (measuring the particular characteristics of each Housing Finance Company);

$\varepsilon_{it}$  = Residual errors of Housing Finance Companies  $i$  in year  $t$ .

#### **4.2 Panel Regressions Test Results between Receivables Management and Profitability (NPR) Indicator of Selected Housing Finance Companies in India**

In model 1, NPR has been considered as a dependent variable and five receivables management indicators and two working capital management indicators have been considered as independent variables.

Hausman test is also done to assert the appropriateness of model.

**Table – 1: Panel Regressions Test Results**

Variable	Fixed Effects			Random Effects		
	Coefficient	t-statistic	Prob.	Coefficient	t-statistic	Prob.
Intercept	-9.26	-1.71	0.09	1.62	0.85	0.40
CR	1.16	8.35	0.00	0.08	0.81	0.42
QR	-0.01	-0.70	0.49	0.02	1.05	0.30
RTAR	0.47	7.51	0.00	4.61	5.56	0.00
RTR	0.01	-0.10	0.92	0.19	5.49	0.00
RTWR	0.01	0.16	0.87	0.01	-4.59	0.00
RTWCR	0.01	0.03	0.98	0.01	-7.31	0.00
SR	1.14	7.24	0.00	-1.35	-4.83	0.00
N	104			104		
R <sup>2</sup>	0.81			0.74		
Adjusted R <sup>2</sup>	0.77			0.67		
F-stat (prob.)	18.84 (.00)			2.17 (.04)		

In relation to this,  $H_0$  hypothesis asserts that “random effects model is suitable” and  $H_1$  hypothesis asserts that “random effects model is not suitable”. The Hausman specification test results are given in table 2.

**Table – 2: Hausman Specification Test Results**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.59	7	0.59

Table 2 demonstrates that null hypothesis is not rejected because the probability is 0.59; therefore all of the individual effects in these models are random.

Panel regression analysis using a random effects model shows that NPR has positive correlations with CR, QR, RTAR, RTR, RTWR, and RTWCR and negative correlations with SR. Additionally, it demonstrates that while CR and QR have a favourable impact on NPR, their connection to NPR is statistically negligible. To demonstrate the effect of receivables management on the net profits of the Indian HFCs, CR and QR are not significant variables. NPR increases by 0.08 units for every unit increase in CR, which is not statistically significant. This shows that the profitability is not much impacted by liquid cash. Once more, an increase in QR results in a 0.02 unit rise in NPR, which is not statistically significant. This demonstrates that the profitability is unaffected by liquidity (Neto<sup>9</sup>, 2003). RTAR and NPR have a statistically significant positive association with each other. NPR increases by 4.61 units for every unit increase in RTAR. This suggests that collecting money from loans will grow overall assets and ultimately have a favourable impact on profitability. NPR increases by 0.19 units for every unit increase in RTR. This shows that increasing receivables positively impacts earnings (Jindal et al., 2017). It is statistically significant that RTWR and RTWCR have a favourable association with NPR. This shows that a statistically significant unit increase in receivables has no effect on

profitability. Finally, SR is statistically significant and adversely correlated with NPR. This demonstrates that when SR is raised one unit, NPR falls by 1.35 units. That implies that an increase in receivables would cause a decline in profitability.

$R^2$  indicates that a percentage change in one variable (the dependent variable) is caused by a percentage change in other variables (independent variables). We may claim that our regression model is moderately (well) suited to explain the NPR variable because the value of  $R^2$  is 0.74, which indicates that 74% of the dependent variable can be predicted by the independent factors. Only those predictors that actually have an impact on the dependent variable are shown in the adjusted  $R^2$  calculation. The adjusted  $R^2$  score in this instance is 0.67, indicating that the model is moderately (very) effective at explaining the financial performance metrics that affect NPR. The regression model is perfectly fitted, as shown by F statistics (2.17) and probability (0.00).

#### 4.3 Panel Regressions Test Results between Receivables Management and (OPR) Profitability Indicator of Selected Housing Finance Companies in India

In model 2, OPR has been considered as a dependent variable and five receivables management indicators and two working capital management indicators have been considered as independent variables. Two panel regression models, that is, fixed effects model and random effects model using model 2 have been presented in table 3.

**Table – 3: Panel Regressions Test Results**

Variable	Fixed Effects			Random Effects		
	Coefficient	t-statistic	Prob.	Coefficient	t-statistic	Prob.
Intercept	-0.07	-0.03	0.98	-0.61	-0.67	0.50
CR	-0.07	-1.07	0.29	0.01	0.01	0.99
QR	0.00	0.02	0.98	0.01	-0.14	0.89
RTAR	0.05	8.12	0.00	-0.15	-0.37	0.71
RTR	0.01	-8.13	0.00	0.01	-0.17	0.86
RTWR	0.01	0.06	0.95	0.01	0.31	0.76
RTWCR	0.01	0.06	0.96	0.01	0.24	0.81
SR	0.11	6.25	0.00	0.21	1.60	0.11
N	104			104		
$R^2$	0.72			0.73		
Adjusted $R^2$	0.68			0.69		
F-stat (prob.)	9.58(0.00)			8.45(0.00)		

To find out which panel model (fixed effects model and random effects model) is appropriate to be used in the study, Hausman specification test has been employed.

In relation to this,  $H_0$  hypothesis asserts that “random effects model is suitable” and  $H_1$  hypothesis asserts that “random effects model is not suitable”. The Hausman specification test results are given in table 4.

**Table – 4: Hausman Specification Test Results**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.45	7.00	0.38

Table 4 demonstrates that null hypothesis is not rejected because the probability is 0.38; therefore all of the individual effects in these models are random. The null hypothesis tells that random effects model is more useful than fixed effects model. So, the panel data regression has been described by the random effects model in the present study.

Panel regression analysis using a random effects model shows that OPR has positive correlations with CR, QR, RTR, RTW, RTWCR, and SR, while having negative correlations with RTAR. It demonstrates that, although their link is statistically negligible, CR and QR have a favourable impact on OPR. Therefore, operating profit is unaffected by liquidity. RTAR has a weakly negative correlation with OPR. OPR decreases by 0.15 units for every unit increase in RTAR. This means that businesses must only endure a minimal amount of operating expenses in order to recover from borrowers.

Although not significantly, RTR, RTWR, and RTWCR are all positively correlated with OPR. Operating profit is unaffected by an increase in RTR, RTWR, or RTWCR of one unit. SR and OPR have a small yet beneficial relationship. Therefore, a one unit rise in receivables results in a 0.21 unit increase in operating profit. This suggests that a rise in debtors has a favourable impact on operating profit (Ksenija, 2013).

$R^2$  is the coefficient of determination, which shows that percentage changes in other variables are correlated with % changes in one variable (the dependent variable) (independent variables). Since the dependent variable can be predicted by the independent variables to an extent of 74% ( $R^2 = 0.73$ ), we can state that our regression model is moderately (well) fitted to explain the NPR variable. Adjusted  $R^2$  shows the percentage change in the independent variable's variance caused only by the predictors that have a significant impact on the dependent variable. Since the modified  $R^2$  in this instance is 0.69, the model's ability to describe the financial performance metrics that affect NPR is substantially (high). The regression model is perfectly fitted, according to F statistics (8.45) and probability (0.00).

#### **4.4 Panel Regressions Test Results between Receivables Management and (ROA) Profitability Indicator of Selected Housing Finance Companies in India**

In model 3, ROA has been considered as a dependent variable and five receivables management indicators and two working capital management indicators have been considered as independent variables. Two panel regression models, that is, fixed effects model and random effects model using model 3 have been presented in table 5.



**Table – 5: Panel Regressions Test Results**

Variable	Fixed Effects			Random Effects		
	Coefficient	t-statistic	Prob.	Coefficient	t-statistic	Prob.
Intercept	-9.55	-1.77	0.08	1.38	0.73	0.47
CR	1.16	8.36	0.00	0.08	0.87	0.39
QR	-0.01	-0.70	0.49	0.02	1.03	0.30
RTAR	0.47	7.52	0.00	4.60	5.55	0.00
RTR	0.01	-0.05	0.96	0.01	0.48	0.64
RTWR	0.01	8.18	0.00	0.01	-0.57	0.57
RTWCR	0.01	6.03	0.00	0.01	-1.31	0.19
SR	1.15	8.26	0.00	-1.34	-4.77	0.00
N	104			104		
R <sup>2</sup>	0.81			0.74		
Adjusted R <sup>2</sup>	0.77			0.67		
F-stat (prob.)	18.68 (.00)			2.16 (.04)		

To find out which panel model (fixed effects model and random effects model) is appropriate to be used in the study, Hausman specification test has been employed.

In relation to this, H<sub>0</sub> hypothesis asserts that “random effects model is suitable” and H<sub>1</sub> hypothesis asserts that “random effects model is not suitable”. The Hausman specification test results are given in table 6.

**Table – 6: Hausman Specification Test Results**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	292.69	7.00	0.00

Table 6 demonstrates that null hypothesis is rejected and alternative hypothesis is accepted because the probability is 0.00; therefore all of the individual effects in these models are fixed. The alternative hypothesis tells that fixed effects model is more useful than random effects model. So, the panel data regression has been described by the fixed effects model in the present study.

According to a panel regression analysis using a fixed effects model, ROA has a positive relationship with CR, RTAR, RTR, RTWR, RTWCR, and SR, while having a negative relationship with QR (Table 4). ROA is positively impacted by CR, which is statistically significant. Accordingly, ROA improves by 1.16 units for every unit increase in CR. It suggests that profitability is positively impacted by liquidity (Arnold, 2008, Valverde & Fernandez, 2007). Once more, QR has a weakly negative relationship with ROA that is not statistically significant. When QR is raised one unit, ROA falls by 0.01 units. This suggests that liquidity has little to no effect on profitability. Significantly, RTAR is strongly correlated with ROA. ROA rises by 0.47 units for every unit increase in RTAR. RTAR is a crucial factor since borrowers' collections have a favourable effect on profitability. Though not considerably, RTR and ROA are favourably correlated. Increases in

receivables (bad debt burdens on businesses) have no discernible effects on profitability. Both RTWR and RTWCR have a statistically significant positive correlation with ROA. No impact is felt by RTW or RTWCR on ROA. Additionally and importantly, SR and ROA have positive relationships. When SR is raised one unit, ROA raises 1.15 units in response. A rise in receivables has a favourable effect on profitability; loans to receivables give businesses a chance to generate a respectably high return.

R2 indicates that a percentage change in one variable (the dependent variable) is caused by a percentage change in other variables (independent variables). We may claim that our regression model is moderately (well) suited to explain the NPR variable because the value of R2 is 0.81, which indicates that 74% of the dependent variable can be predicted by the independent factors. Only those predictors that actually have an impact on the dependent variable are shown in the adjusted R2 calculation. The adjusted R2 score in this instance is 0.76, indicating that the model is moderately (very) effective at explaining the financial performance metrics that affect NPR. The regression model is perfectly fitted, according to F statistics (18.68) and probability (0.00).

#### 4.5 Panel Regressions Test Results between Receivables Management and (ROE) Profitability Indicator of Selected Housing Finance Companies in India

In model 4, ROE has been considered as a dependent variable and five receivables management indicators and two working capital management indicators have been considered as independent variables. Two panel regression models, that is, fixed effects model and random effects model using model 4 have been presented in table 7.

**Table – 7: Panel Regressions Test Results**

Variable	Fixed Effects			Random Effects		
	Coefficient	t-statistic	Prob.	Coefficient	t-statistic	Prob.
Intercept	0.67	5.18	0.00	1.28	0.29	0.77
CR	0.09	5.98	0.00	0.08	5.88	0.00
QR	0.01	0.73	0.47	0.01	6.73	0.00
RTAR	-0.14	-6.22	0.00	-0.13	-8.20	0.00
RTR	0.01	-9.10	0.00	0.01	-8.35	0.00
RTWR	0.01	-9.03	0.00	0.01	-7.03	0.00
RTWCR	0.01	0.00	1.00	0.01	0.01	0.99
SR	0.60	0.94	0.35	0.52	6.85	0.00
N	104			104		
R <sup>2</sup>	0.88			0.73		
Adjusted R <sup>2</sup>	0.85			0.69		
F-stat (prob.)	32.57(0.00)			9.46(0.00)		

To find out which panel model (fixed effects model and random effects model) is appropriate to be used in the study, Hausman specification test has been employed.

In relation to this,  $H_0$  hypothesis asserts that “random effects model is suitable” and  $H_1$  hypothesis asserts that “random effects model is not suitable”. The Hausman specification test results are given in table 8.

**Table – 8: Hausman Specification Test Results**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.48	7.00	0.98

Table 8 demonstrates that null hypothesis is not rejected because the probability is 0.98; therefore all of the individual effects in these models are random. The null hypothesis tells that random effects model is more useful than fixed effects model. So, the panel data regression has been described by the random effects model in the present study.

According to a panel regression study using a random effects model, ROE is favourably correlated with CR, QR, RTR, RTW, RTWCR, and SR, while being negatively correlated with RTAR (Table 7). ROE is positively impacted by CR, which is statistically significant. Accordingly, ROE rises by 0.08 when CR rises by one unit. Once more, there is a large positive correlation between QR and ROE. When QR is raised one unit, ROE rises by 0.01 instead. This suggests that liquidity and return on equity are positively and sporadically correlated. RTAR has a statistically significant negative correlation with ROE. ROE falls by 0.13 units for every unit increase in RTAR. Instead of using the money collected from borrowers to pay dividends, different uses are made of it. RTR and ROE have a positive relationship that is statistically significant. The payment of dividends is unaffected by an increase in receivables. Additionally, SR and ROE have statistically significant positive relationships. Therefore, a one unit raise in receivables results in a 0.52 unit increase in ROE. This suggests that an increase in borrowers will improve profitability.

R<sup>2</sup> is the coefficient of determination, which shows that percentage changes in other variables are correlated with % changes in one variable (the dependent variable) (independent variables). Since the dependent variable can be predicted by the independent variables to an extent of 73% ( $R^2 = 0.73$ ), we can state that our regression model is moderately (well) fitted to explain the NPR variable. Adjusted R<sup>2</sup> shows the percentage change in the independent variable's variance caused only by the predictors that have a significant impact on the dependent variable. Since the modified R<sup>2</sup> in this instance is 0.69, the model's ability to describe the financial performance metrics that affect NPR is substantially (high). The regression model is perfectly fitted, according to F statistics with probability (0.00).

## 5. Conclusions

The findings of the panel regressions test between receivables management and profitability (NPR) show that NPR is strongly inversely correlated with SR and significantly correlated with RTAR, RTWR, and RTWCR of the chosen housing financing organisations. The panel regression test results between receivables management and profitability show that OPR is positively associated to CR, QR, RTR, RTW, RTWCR, and SR of the chosen home financing companies and that OPR is adversely connected to RTAR, although the results are not statistically significant. The findings of the panel regressions test between receivables management and profitability show that ROA strongly correlates favourably with CR, RTAR, RTWR,

RTWCR, and SR of the chosen housing financing organisations. The findings of a panel regression test between receivables management and profitability show that ROE has a substantial positive correlation with CR, QR, RTR, and SR and a significant negative correlation with RTAR of the chosen housing financing organisations.

Managers can boost the profitability of Indian housing finance organisations by following strict credit criteria and processes while disbursing home loans. By putting in place an appropriate collection mechanism, increasing their investments in liquid assets, and making the best use of all available assets, managers can also increase profitability levels.

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**Abbreviations used**

1. SR	Size of receivables
2. RTR	Receivables to Turnover Ratio
3. RTWR	Receivables to Net Worth Ratio
4. RTAR	Receivables to Total Asset Ratio
5. RTWCR	Receivables to Working Capital Ratio
6. CR	Current Ratio
7. QR	Quick Ratio
8. CPR	Cash Position Ratio
9. NPR	Net Profit to Receivables
10. OPR	Operating Profit to Receivables
11. ROA	Return on Assets
12. ROE	Return on Equity
13. HFC	Housing Finance Companies

