

FACTORS AFFECTING THE CASH FLOW TO THE FIRM (FCFF) – EVIDENCE FROM LISTED REAL ESTATE ENTERPRISES IN VIETNAM

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Abstract

We employ the free cash flow to the firm (FCFF) in this study as a stand-in for the company's cash flow. The financial statements of 78 real estate enterprises that were listed between 2016 and 2023 on the Vietnam stock exchange made up the research sample. Regression analysis and the SPSS26 software program were employed in the investigation. The findings indicate that: Inventory (INV) has a negative influence on FCFF; Accounts Payable (AP); and Accounts Receivable (AR) have a considerable impact in the same direction. The study uses two control variables, the research results show that Enterprise Size (SIZE) has a positive effect and Enterprise Age (AGE) has a slight negative effect on FCFF. The results also show that the two variables Short-term debt solvency ratio (CR) and Cash conversion cycle (CCC) have no influence on FCFF. The research results are useful suggestions for administrators to enhance effective cash flow management in real estate enterprises in Vietnam.

Keywords: Real Estate Enterprises; Cash Flow; Free Cash Flow to the Firm (FCFF).

1. INTRODUCTION

If revenue and profit are considered important factors to evaluate financial performance, then cash flow is an important factor to evaluate business growth. Cash flow is the movement in and out of cash flow in a company or unit, over a certain period of time. For each company, cash flow is like blood flowing in the body and cash flow management can determine the company's survival. Cash flow plays an important role, affecting the economic decisions of businesses. Rob Reider and colleagues (2003) believe that cash flow management is one of the management contents that govern the survival of a business, even more important than generating sales. Cash flow management creates the capacity for businesses to maximize value, helps businesses detect potential gaps in cash flow, and minimize risks in cash flow balance.

For any country's economy, the role of the real estate market is enormous. Therefore, the activities of real estate enterprises also have a strong impact on the economy in many aspects. However, in recent times, many real estate businesses in Vietnam, including real estate enterprises listed on the stock market, are at risk of bankruptcy. The reason is due to the weak financial performance of these real estate enterprises as well as the business environment that the businesses have no control over. In addition to the objective reasons, one of the subjective reasons leading to the above recession is that listed real estate enterprises have not effectively

managed their cash flow, especially the free cash flow to the firm (FCFF). In reality today, many listed real estate enterprises are interested in cash flow management to serve the management and operation of their units. However, cash flow management in listed real estate enterprises is still limited and does not really meet the requirements of providing useful information to different subjects of risky business sectors. This is so. Therefore, identifying factors that affect the net cash flow of real estate enterprises is an important task for managers in a market economy, helping businesses avoid asset losses, capital, helping the economy grow sustainably. Information from analysis will provide everyone inside and outside the business to make useful decisions for each different purpose. In today's deeply integrated and developed economy with many unusual fluctuations, especially sensitive business fields such as the real estate market and stock market, information from analysis factors affecting the free cash flow to the firm are vital for businesses in general and listed real estate enterprises in particular, and are useful information for administrators to enhance governance. effective cash flow in these businesses.

2. THEORETICAL BACKGROUND AND LITERATURE REVIEW

2.1 Literature review

The theoretical basis to study the impact of cash flow on company performance is based on free cash flow theory, agency theory, pecking order theory and trade-off theory...

Free cash flow theory: Jensen (1986) is one of the first researchers on issues related to free cash flow and the theory of free cash flow. Managers of companies with abundant free cash flow but few growth opportunities will tend to invest in projects with low or even negative profitability, rather than paying back to shareholders. According to the free cash flow theory, once the amount of cash exceeds the amount of cash needed for the business and investment activities of the enterprise, conflicts of interest between corporate managers and shareholders will arise. . Managers, for their own benefit, will tend to expand their businesses, expand their scale, and make unreasonable investments. This can increase business revenue, but profits do not increase proportionately, on the contrary, affecting business performance.

Agency theory is a management economic theory that studies the relationship between the representative and the represented developed by Michael Jensen and his colleagues (1976): This theory holds that, when the represented When a principal authorizes an agent to perform certain tasks or decisions on his/her behalf, the interests of the two parties do not coincide and can lead to a conflict relationship. Agency theory also believes that agency costs are the result of conflicting relationships between the representative and the represented, including monitoring costs or construction costs. Incentive mechanism to ensure that the representative will act in accordance with the interests of the represented.

Managers will seek personal benefits instead of the interests of the business, so they tend to choose low-risk investment projects, low debt ratios, and low profits to reduce the risk of bankruptcy. To resolve conflicts through reducing agency costs, (Harris, 2011) demonstrated debt as a mechanism to monitor and incentivize Board of Directors performance due to the

positive relationship between debt ratio loans and net cash flow of the business. The company is at risk of bankruptcy if it cannot pay its debts when creditors request it. Thus, through minimizing agency costs, this theory supports the use of debt; increasing debt will directly affect the cash flow of the business.

The pecking order theory was developed by Donaldson (1961) about the order of capital use in businesses. Businesses consider using three types of capital sources: Retained profits, debt and equity. Deciding which capital source to use will indicate the fluctuations of each cash flow in the company. When the company needs to mobilize capital, it will limit cash dividend payments and prioritize the use of retained profits. When cash flow fluctuations are high, businesses no longer have enough internal capital for business activities and need to mobilize capital regularly from the external market.

Therefore, these businesses will increase their use of financial leverage. Finally, the source of equity capital will be selected. Businesses with unstable cash flows often have quite volatile business operations due to cash flow asymmetry (Frank & Goyal, 2009). According to the pecking order theory, the company will not determine a target cash reserve level but will adjust the cash reserve level according to needs and investment opportunities.

Trade-off theory: According to trade-off theory, businesses can compare the marginal costs and benefits of retaining cash in order to maximize their worth. The opportunity cost of using capital is known as the marginal cost. Businesses can undertake suggested investment initiatives, lower the danger of a financial catastrophe, and save money on outside capital mobilization costs—especially in a market with imperfect competition.

These are examples of marginal gains. As per Miller and Orr (1966) and Dittmar et al (2003), businesses set aside cash in response to rising opportunity costs associated with cash scarcity. This approach was created by Miller and Orr (1966) who calculated the ideal cash balance by weighing the costs of retaining non-interest yielding cash against the risk of running out of cash. According to Ferreira and Vilela (2004) argue that holding cash helps businesses reduce the possibility of financial crisis because businesses have a safe reserve in case of unexpected financial losses.

2.2. Overview of experimental research

Many scholars have studied cash flow and factors affecting a company's cash flow. However, the results of experimental studies are not consistent. Specifically:

Bowen et al (1986) conducted research on the empirical relationship between accrued earnings and cash flow in businesses in the US. The results of the study demonstrate a strong correlation between traditional (treasury-based) cash flow and earnings but a weak correlation between “alternative” cash flow measures and earnings. The study confirms that the cash flow prediction model does not affect future profits and cash flows.

In addition, the results of the study also show that factors affecting cash flow include: Financial structure, liquidity, inventory turnover and receivables, asset structure, shareholder structure .. Jensen (1986) pointed out that the corporate management structure has an impact on cash flow

management in the enterprise, accordingly, if the management structure has the participation of investors who actively manage and supervise will help the company somewhat limit the use of investment cash flow in projects with lower profitability.

A study on the correlation between changes in dividends and the cash flows of over sixty Nigerian enterprises (1984–1997) was carried out by Adelegan (2003). The relationship between cash flows and changes in dividends was investigated by the author using time series data and the Lintner-Brittain model.

The findings indicate a strong correlation between cash flow and dividend change. This result differs from earlier research, which indicates that the degree of change is contingent upon factors such as macroeconomic policy, the size of each firm, the choice of capital structure, and the rate of development.

A study by Kamran et al. (2017) examined the impact of cash flow on the profitability of Karachi-listed companies. Based on the study's findings, there is a considerable positive correlation between net cash flow and earnings for businesses. This demonstrates that a company's net cash flow is a necessary condition for its profitability. Furthermore, the study's findings demonstrate the influence of financial measures, such as the debt-to-asset ratio, the ability to make payments, and the turnover ratios of accounts receivable and inventories, on treasury net cash flow.

Therefore, research indicates that cash flow is crucial for firms. Generally speaking, financial ratios (debt ratio, solvency ratio, turnover ratio, profitability) and other variables are what drive net cash flow (FCFF). Control encompasses operating hours, business divisions, and organization size. Numerous studies show that cash flows are impacted by profits. The studies' inconsistent and consistent results can be attributed to the variations in the temporal and spatial contexts of the research related to the real company activities in each nation. In addition, there are variations in the way the study model and estimating techniques handle variables.

3. RESEARCH METHODS

3.1. Research data

Utilize quantitative research techniques to assess and choose regression models, test and estimate panel data regression models, and use SPSS 26 software. To assess the effect of factors on the cash flows of the companies, the author tests, picks the best estimation model for the panel data, and decides between impact regression models. real estate company. Two dimensions are used to express variables in table data form (Panel Data): the time dimension and the business dimension.

The study's foundation was data on real estate companies that were listed between 2016 and 2023 on the Vietnam Stock Exchange. Independent auditing firms are required to audit the financial statements of every company included in the study. Consequently, 78 real estate companies that satisfy the aforementioned requirements will be included in the research sample, for a total of 546 observations.

3.2. Description of research variables and hypotheses

The author develops a multivariate regression research model on the following factors influencing the cash flow of real estate enterprises, building on the research models of earlier studies (Adelgan, 2003; Bowen et al., 1986; Kamran et al., 2017; Usman et al., 2018).

$$FCFF_{it} = \alpha + \beta_1 INV_{it} + \beta_2 AR_{it} + \beta_3 AP_{it} + \beta_4 CR_{it} + \beta_5 CCC_{it} + \beta_6 SIZE_{it} + \beta_7 AGE_{it} + \varepsilon_{it}$$

3.3. Variables in the model and research hypotheses

** Dependent variable:*

The author uses the variable Corporate Net Cash Flow (FCFF) as the dependent variable. FCFF is the cash flow generated from business activities after deducting necessary investments (capital investment in fixed assets and regular working capital) for future business activities. Using FCFF has a major impact on a business's financial strategy and investment policy decisions. How to determine FCFF is as follows:

$$FCFF = [EBITDA * (1 - T)] + (Dep * T) - Inv LT - Inv WC$$

EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization

T: Taxes

Dep: Depreciation

Inv LT: Long Term Investments

Inv WC: Working capital Investments

** Independent variable:*

- Inventory (INV): Inventory is a list of raw materials and products or the raw materials and products themselves that are kept in stock by a business. This type of short-term asset has low liquidity and is the most difficult to convert into cash in a business.
- Accounts receivable (AR) is a form of asset used by firms that is based on any debts, unpaid transactions, or any money owed by clients but not yet paid.
- Accounts payable (AP): Also referred to as payable to the seller, AP is created when a company pays suppliers in advance for products or services. It is anticipated that accounts payable will be fully settled either in a single operational cycle or a year, whichever comes first.
- Short-term debt solvency ratio (CR): This is a measure of how many dong of short-term assets are needed to offset one dong of short-term debt. As a result, the measure that often best represents the company's capacity to turn assets into cash and settle short-term debts is the short-term liquidity ratio
- Short-term debt solvency ratio (CR): This is a measure of how many dong of short-term assets are needed to offset one dong of short-term debt. As a result, the measure that often best represents the company's capacity to turn assets into cash and settle short-term debts is the short-term liquidity ratio.

- Cash conversion cycle (CCC): CCC plays an important role in finding the appropriate inventory holding time as well as reflected by the total number of debt collection days in the business operating cycle, starting from the production of inventory to the sale of that inventory and also reflects the time it takes to pay suppliers. If a business has appropriate CCC, shortening the time to collect receivables to a reasonable level, accelerating sales speed, reducing the number of days of inventory, and extending the time to pay accounts payable will help improve profits. , increasing profitability. CCC is determined as follows:

$$CCC = DIO + DSO - DPO$$

CCC: Cash Conversion Cycle

DIO: Days inventory outstanding

DSO: Days Sales Outstanding

DPO: Days payable outstanding

** Control variables:*

In addition to variables related to FCFF, the article adds a number of control variables into the model to better explain the research results, including: Enterprise size (SIZE) and Enterprise age (AGE). .

- Business scale (SIZE): Due to the characteristics of business operations, large-scale businesses are often able to generate better net cash flow, so business scale can have a positive impact on cash flow. pure. There are many criteria to determine the size of a business. In this article, the author determines the size of a real estate business according to the value of total assets. SIZE in the research model is calculated as the logarithm of the enterprise's total book value of assets.
- Enterprise age (AGE): AGE is calculated from the time the enterprise was established and operated in the form of a joint stock company until the year of study.

** Research hypothesis:*

Hypothesis H1: INV has a positive impact on FCFF, meaning that businesses with large inventories have higher net cash flow and vice versa.

Hypothesis H2: AR has a negative impact on FCFF, meaning that the larger the receivables a business has, the lower its net cash flow will be and vice versa.

Hypothesis H3: AP has a negative impact on FCFF, meaning that the larger the payables, the lower the net cash flow and vice versa.

Hypothesis H4: CR has a positive impact on FCFF, meaning that the greater the enterprise's solvency, the higher its net cash flow and vice versa.

Hypothesis H5: CCC has a positive impact on FCFF, meaning that the larger the cash conversion period, the higher the net cash flow and vice versa.

4. RESEARCH RESULTS

4.1. Descriptive statistical analysis

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
FCFF	73,163	200,424,434	7,615,577	22,625,860
INV	409	134,955,712	4,012,407	12,890,048
AR	3,909	136,164,883	3,059,427	11,523,844
AP	39	441,751,791	8,440,584	35,307,884
CR	.102	20.550	2.456	2.264
CCC	-491,737	2,149,987	4,438	95,058
SIZE	10.388	20.174	14.803	1.517
AGE	1	51	19.23	10.066

Source: Calculated results from SPSS 26 software

Table 1 illustrates the relatively wide range of values for the net cash flow of real estate enterprises (FCFF), which averages 7,615,577 million VND. The average value of accounts receivable (AR) is 3,059,427 million VND, accounts payable (AP) is 8,440,584 million VND, and inventory (INV) is 4,012,407 million VND. The cash conversion cycle (CCC) has a huge average length of 4,438 days due to the average collection period and the long number of inventory storage days of real estate enterprises. The average value of the short-term debt solvency ratio is 2.456. Real estate enterprises are quite substantial in scale and have expertise in the real estate business, as seen by the average enterprise size (SIZE) of 14,803 and average age (AGE) of 19 years.

4.2. Correlations

Table 2: Correlations

	FCFF	INV	AR	AP	CR	CCC	SIZE	AGE
FCFF	1	.738**	.838**	.871**	-.073*	-.010	.649**	-.091*
INV	.738**	1	.863**	.882**	-.055	-.011	.634**	-.105**
AR	.838**	.863**	1	.934**	-.075*	-.010	.568**	-.104**
AP	.871**	.882**	.934**	1	-.087*	-.010	.571**	-.069
CR	-.073*	-.055	-.075*	-.087*	1	.051	-.130**	-.030
CCC	-.010	-.011	-.010	-.010	.051	1	-.009	.107**
SIZE	.649**	.634**	.568**	.571**	-.130**	-.009	1	.003
AGE	-.091*	-.105**	-.104**	-.069	-.030	.107**	.003	1
**. Correlation is significant at the 0.01 level (1-tailed).								
*. Correlation is significant at the 0.05 level (1-tailed).								

Source: Calculated results from SPSS 26 software

Table 2 indicates that there is no correlation between the variables because $\text{Sig} > 0.05$: There is no correlation between CCC and any of the variables, CR and INV, and AGE and AP, CR, and SIZE. There is a significant correlation between the remaining variables at both the 5% ($\text{sig} \leq 0.05$) and 1% ($\text{sig} \leq 0.01$) significance levels.

4.3. Analyze regression results

The following outcomes of the study, which used a linear regression model to examine the influence of variables on cash flow in real estate enterprises, were obtained:

Table 3: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1	2.266E+17	7	3.237E+16	332.982	.000 ^b

Source: Calculated results from SPSS 26 software

According to Table 3. ANOVA gives us F-test results to evaluate the appropriateness hypothesis of the regression model. The F-test sig value is $0.000 < 0.05$, meaning $R^2 \neq 0$, the regression model is appropriate.

Table 4: Model Summary^b

Model	R	R Square	Adjusted R Square	Sig. F Change	Durbin-Watson
1	.905 ^a	.820	.817	0.000	1.982

Source: Calculated results from SPSS 26 software

Table 4 indicates that the independent variables included in the regression analysis account for 81.7% of the variation in the dependent variable in the model, with the remaining variation being caused by factors outside the model. The model's Adjusted R Square is 0.817. both random mistake and pattern. When the Durbin Watson value of the model is between 0 and 2, there is no first-order serial correlation.

Regression results of model:

Table 5: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics VIF
		B	Std. Error	Beta			
1	(Constant)	-60282627	5563725		-10.835	.000	
	INV	-.627	.078	-.351	-8.083	.000	5.369
	AR	.395	.107	.201	3.710	.000	8.361
	AP	.528	.037	.824	14.138	.000	9.658
	CR	336450	215582	.030	1.561	.119	1.024
	CCC	.889	4.610	.004	.193	.847	1.013
	SIZE	4444553	375189	.291	11.846	.000	1.717
	AGE	-105292	43400	-.046	-2.426	.016	1.038

a. Dependent Variable: FCFE

Source: Calculated results from SPSS 26 software

According to the regression results of the model in Table 5, the variables CR and CCC have Sig values greater than 0.05, so these variables are not statistically significant. The remaining variables have Sig values less than 0.05, so these variables are all statistically significant. Standardized Coefficients Beta of INV and AGE have negative signs so they have opposite

effects on the FCFF variable; Standardized Coefficients Beta of AR, AP, SIZE has a positive sign so it has a positive impact on FCFF. Based on the magnitude of Standardized Coefficients Beta, the order of impact from strongest to weakest of the independent variables on FCFF is: AP (0.824) > INV (-0.351) > AR (0.251). The control variable AGE has a Standardized Coefficients Beta of -0.046, so it has a slight negative impact on FCFF. The control variable SIZE has a Standardized Coefficients Beta of 0.088, so it has a positive impact on the dependent variable FCFF. The variance magnification factor VIF of the variables is at the level from 1 to 10, proving that there is a moderate correlation between the independent variable FCFF and other variables, and no multicollinearity phenomenon occurs.

Considering the standardized regression coefficient (β), we have the model's standardized regression equation as follows:

$$FCFF = -0.351*INV + 0.201*AR + 0.824*AP + 0.291*SIZE - 0.046*AGE + \varepsilon$$

5. DISCUSS RESEARCH RESULTS

The research results have evaluated the factors affecting the cash flow of listed real estate companies in Vietnam, including: Accounts payable (AP); Accounts receivable (AR) has a strong impact in the same direction; Inventory (INV) has a negative impact on FCFF. The study uses two control variables, the research results show that Enterprise Size (SIZE) has a positive effect and Enterprise Age (AGE) has a slight negative effect on FCFF. The results also show that the two variables Short-term debt solvency ratio (CR) and Cash conversion cycle (CCC) have no influence on FCFF. These results are useful suggestions for administrators to enhance effective cash flow management in real estate businesses and are also the basis for the research team to synthesize and propose policy recommendations. to effectively manage cash flow in real estate companies in Vietnam. Although certain results have been achieved, the study is still limited in terms of data collection from real estate companies' financial statements. On the other hand, real estate companies listed on the Vietnamese stock market often operate in multiple industries, so it is difficult to quality their net cash flow separately. These are gaps for further research on net cash flows of real estate companies in Vietnam.

6. CONCLUSION AND POLICY IMPLICATIONS

Empirical research results for the case of listed real estate companies in Vietnam have shown three factors: Accounts payable; Accounts receivable; Inventory has a strong impact on the net cash flow of real estate businesses, and also confirms that net cash flow plays a huge role in the investment decisions of businesses. With the goal of reasonable cash flow management, the research results recommend that businesses pay attention to the balanced relationship between revenues and expenditures related to production and business as well as effective working capital management to ensure the ability to create money, balance payment risks with capital use efficiency when mobilizing external funding sources, adjust fixed asset investment trends in accordance with risk control ability. On that basis, the author proposes some solutions to help businesses manage cash flow more effectively. Specifically as follows:

The first, use debt appropriately. Businesses need to choose the right time to use financial leverage. When a business operates effectively, using more debt will help the business increase value quickly. However, using financial leverage also comes with some risks, such as increased risk of bankruptcy if debt is not well managed, interest burden and debt repayment pressure. Therefore, effective financial leverage management is essential to ensure that businesses can take advantage of the benefits of using borrowed money in a safe and sustainable manner.

The second, budget planning: Businesses need to plan a budget for all of their business activities. Strict cost management helps ensure financial stability and minimize risk. Based on the combination of three optimal strategic decisions: investment, financing and profit distribution, perform a scenario/sensitivity analysis to examine cash availability under different circumstances, especially in the context of the industry and the economy facing difficulties. From there, long-term cash flow planning allows businesses to adjust business strategies and manage financial activities to suit long-term cash flow goals; helps shape investment, spending and asset management decisions in a rigorous way.

The third, track the cash cycle: The cash cycle is the time it takes a business to convert the money used to produce inventory into money collected from sales activities. Businesses need to closely monitor receivables, payables and inventory to monitor cash flow in and out. A common cash flow problem is the gap between selling products on credit to customers and immediately paying suppliers. The characteristic of real estate businesses is that the value of goods is large, so in business, late payments or installment payments often arise. If the customer's payment terms are longer than the business may have to use reserves to pay. This will likely lead to bad cash flow.

This study has proven that there is a direct and positive relationship between profit and cash flow, pointed out the factors affecting cash flow and confirmed that net cash flow is an important prerequisite for profit. profits of a company. The main limitation of this study is that it is only based on secondary data at one point in time and considers the effects of financial indicators. Future studies should expand the sample size in space, time and other variables such as legal factors and tax policies.

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