Study Relationship between Investments of Assets Fixed and Liquidity in the Company Accepted in Tehran Stock Exchange

Falah DoostanAsl[1] and Mehrdad Ghanbary, Ph.D.[2]

Abstract

This study is followed to identity and determination of relation between enterprises in productive fixed assets and cash flows in accepted companies in Tehran exchange. This study is functional studies in terms of objective and it categorize according to the subject identity, to analytical and descriptive studies. In that study, it has used from scope and library ways for required data collection. Statistical place of this study are including all of accepted companies in Tehran exchange during 1385 to 1391. It has used from historical information in the financial lists to collect data. It has used from descriptive and deductive statistics (simple and multiple linear regression test) to test the assumptions (amplitude distribution, amplitude percentage, collective amplitude percentage and tables and schema). Study results come from this topic that there is a positive relationship between capital variation in stable assets and accounting cash flows and free cash flows and capital cash flows and have found no meaningful relation between the capital in the stable assets and equity cash flow.

Keywords: productive fixed assets, accounting cash flows, free cash flows, capital cash flows, equity cash flows, accepted companies in Tehran stock exchange.

[1]Department of Accounting, Ilam Branch, **Islamic Azad University**, Ilam, Iran
[2]Department of Accounting, Kermanshah Branch, **Islamic Azad University**, Kermanshah, Iran. (Corresponding Author)

Introduction

Although, accounting profit have used as one of the profit measurement tools of commercial units, but are follow to some information about future practical cash flows. Thus, the American accounting association (1994) recommend to the commercial units to show his own Operating cash flows of the main and non-main activities in the financial lists, because the main cash flows yields from the repetitive activities and events and have greater prediction ability. Cash flows are accounted for important data in the economics decisions. The accompanied studies and essays in this point, it is form one of the most voluminous and most study effort in the accounting history. (Saghafi, 1994). Therefore, many researchers try to recognize effective factors on prediction of companies' cash flows. Influential factors are enterprises in the fixed assets which are cause to company profitability include property, machinery and equipment in the productive companies.

Companies that operate in today's environment are a growing and competitive environment. Companies have to competition with various factors in the national and international level and development of his own activities via new enterprises. (Arbabian et. al, 2009).

Cash flows are one of the important factors in the enterprises decisions. Thus, recognition of effective factors on the future cash flows has a significant importance. Capitals in the productive fixed assets in the productive companies are some factors that investigate in this study. Thus, it has measured the effect of this variation on the cash flow to be effective in the capital and profitability decisions' of companies.

However, as mentioned, expected future cash flows are the interest topics for investors, creditors, managers, financial analysts and other users. In this study, we intended to investigate and identify the types of cash flow, including: investigated cash flow accounting, cash flow to equity, free cash flow and capital cash flows, Impact on investment in fixed assets in the form of cash companies listed in Tehran Stock Exchange and will be discussed about a significant relationship between capital in these assets and the company's cash flow.

Theoretical study

Hashemi and Sajjad Doust (2010) stated in a study as the introduction to the relationship with the financial flexibility to invest in fixed assets and the value of the company which financial flexibility is essential as a base for assess the Company's ability to assess liquidity. Also, financial flexibility is the determinant factor of optimal and desired capital structure. They are investigating the theoretical Foundations of financial flexibility and its impact on capital in fixed assets and the value of the company. The results show that the flexibility of the company and the company will increase investment in assets.

Pour Heidary et. al investigated The ability to cash flow from operating activities in the future Cash flow forecasting on the basis of accounting standards and international accounting standards. One of the features of cash flows are that can be predicted Cash Flows obtained from Operating Activities forthcoming provided with information. In accompanied study, it has compared the ability of cash flow prediction of operating activities that has provided according to accounting international standard No. 7. The standard of this comparison is the coefficient of determination of process models. Study finding suggest that cash provided by operating activity of the accounting standard No. 2, can be higher than anticipated cash flow from operating activities has been prepared in accordance with IAS 7.

Hashemi et. al (2009) investigated a financial flexibility relation with enterprises in fixed assets and the value of the company and argue that the usage of financial flexibility on the capital in the fixed assets has a positive effect and cause to increasing of the value of company.

Jamadardi Gorganegi (2003) investigated the ratio of cash flows in a study with data content. The results show that there is no meaningful difference between commitments financial ratios and financial ratios based on cash flows in the prediction stock returns.

Board, J. I. and Day, J. F. S have investigated the information content of cash flows and studied which one of these two variations of accounting profit and cash flows coming from better operation can explain return on equity. They concluded that the accounting profitability effect is more than cash flows coming from operation. They explain in this relation that people are used to accounting profitability on the basis of history and because it is available, so there is no reason to change their behavior.

Ashiq, Ali (1994) has investigated profit association, working capital from operations and cash flow from operations with stock returns. He assumed on this regard that there is a linear relation between yields and each of the three variables and profits, dividends, working capital and cash flows from operations and all of them have additional information content.

Experimental study Vifivou et. al (2000) showed similar behavior for small and large companies, but the relationship between capital and profitability of corporations with this difference that the relation of capital and profitability in big companies, rather than most of the smaller companies. Also, he recognized in the comparison of companies' capital structure that big companies have less capital ratio in

comparison of small companies and the debt ratio of big companies is more than small companies.

How, In –mu, Qi, Doqing and wu, woody have done a study on the basis of a sample consist of 1516 year company for 1995-1998 that they investigate in this study commitment of additional information content in China capital market. They have used from regression model for assumption test adjusted to Kardchou and Sabermaniam way.

Raborn Judy (2008) in his very important study which have been referenced in many subsequent studies, mentioned to this reality that Professionals society involved have been questioned the usefulness and reliability of accounting accruals on evaluation (company shares). Accordingly, several studies have been done in the accompanying cash flow from operations and accounting earnings and stock returns. In Raborn opinion, every data that provided the profit about operation activities and additional load than the provided information by cash flow is due to Accrual adjustment process that returns cash flow for the warranty benefit. Commitment process is criticized due to base on historical finished value and because of reporting profit is manipulated using the accepted ways in GAAP.

Raborn's study results showed that is seen between both abnormal stock return and there is this accompaniment between abnormal return and total accrual.

Additionally, the importance of all the accrual components was confirmed using random process in creation a time series of each component. In Raborn's opinion, we shouldn't generalize his study to the other measurement types that comes to cash flows. Further, his study has performed on big companies and can't generalize these results to small firms. Raborn conclude in his study that operating cash flows is related cumulative current accrual and consistent with data collection that is used for valuation of

shares.

Pablov Fernandez (2013) stated the following results in a paper titled net income, an opinion and cash flows, a reality:

He believes there is a financial and accounting principal that although cannot understand it as an absolute case, but can considered it as a good viewpoint. Its principle is that "net income is just an opinion, but cash flow is a fact". Firms with positive net income increased and companies with losses reduce the value (shareholders) of corporations. Of course, all of these theories may be wrong. In most of the analysis often achieved a figure by adding depreciation to net income, which is called accounting cash flow or cash flow from operations. But most important point is that many people, who are aware of these issues, but consider cash flow instead of net income. He has other definitions from cash flows as follows:

Accounting cash flow, equity cash flow, free cash flow and capital cash flow

Study hypothesize

Main hypothesizes:

There is a meaningful relation between capital in productive fixed assets and cash flows of productive companies.

Secondary hypothesizes:

1-1- There is a meaningful relation between capitals in productive fixed assets and accounting cash flow of manufacturer companies;

1-2- There is a meaningful relation between capitals in productive fixed assets and equity cash flow of manufacturer companies;

1-3- There is a meaningful relation between capitals in productive fixed assets and free cash flow of manufacturer companies;

1-4- There is a meaningful relation between capitals in productive fixed assets and capital cash flows of manufacturer companies.

Study methodology

The present study, in terms of objectives has been as functional researches and categorize according to the subject identity in analytical and descriptive studies, we can verify studied society characteristic in descriptive studies by survey or poll that include the attitudes assess than studied phenomenon. It is used field and library method to collect required data. The aim of field studies is exploration of relation between studied variations; which is occurred in real conditions and researcher doesn't accompany intervention and occupation in its variations and the data are described and then is given the discovery and explanation. (Khaki, 2003, 216). The present study considers the hypothesize verifications and their test base on collected information from Tehran exchange and it is generalize the results on whole of the society (inductive – deductive).

The aim of this study is determination the quantitative relationship between changes in cash flow as dependent variable and changes in capital in productive fixed assets as independent variable.

Since in this study , the relation type in hypothesize is solidarity and data scale type is typical, so, variable sets are two or more than two and the number of subjects can be anything. Regression is the most appropriate formula for test (Zohoori, 2008). Consequently, it has used from two and multi-variable regression model for test hypothesize. It has used from mixed data in this study and has used from statistical software called SPSS for hypothesize test.

Statistical sample

Statistical sample include all of accepted companies in Tehran exchange during 2006-2012.

Study sample

It has been attention to the following standards to select target sample:

1. Some companies that their acceptance date in the exchange is before 2006.

2. These companies don't be one of the capital and companies and financial intermediation components (capital companies don't set in the statistical sample due to the difference of activity nature with other companies).

3. The end of financial year to comparable information is 17 March.

4. Companies are productive type to homogeneous data.

5. Required data of company is available in the current period.

6. It should have enterprises in fixed assets in all of considerable years.

7. the required data should be available.

8. Stop trading shouldn't be more than 90 days.

According to above limitations, the numbers of companies that has taken from related statistical sample to conduct this study is 86 companies and all of required data extracted by sites of Tehran stock exchange and new software outcomes. Research spatial domain is all of accepted companies in Tehran stock exchange. Research tome domain is also 2006 to 2012.

Assessment and Measurement of Variables

All of the extracted data from the financial lists of sample companies are calculated according to the following tables to obtain the research variables:

Table 1: Sources of Capital data collection in Assets

variable	English symbol	Calculation way
Investment in fixed assets	INVEST	Total purchase of long-time investment, Generating tangible fixed assets during the year

The calculation of defined cash flows in this study is follows:

1. Accounting Cash Flow (ACF)

Accounting Cash Flow = Net Income + Depreciation

2. Equity Cash Flow (ECF)

Equity Cash Flow is based on cash flow concept and cash flow during the period is the difference of external and internal cash flow in that period. Equity cash flow is calculated as table 1.

Table 2: the calculation of equity cash flow

Description	Amount
Net income is added after taxation:	Xxx
Depreciation of tangible and intangible assets	Xxx
Increasing in working capital	Xxx
Payment of financial debt	(Xxx)
Increasing in financial debt	Xxx
Increasing in the other assets	(Xxx)
Gross investment in fixed assets	(Xxx)
Book value of sold and set aside fixed assets	Xxx
Equity Cash Flow	Xxx

Equity cash flow is the increasing of cash flow during the time before cash flow payment, redemption of share and capital increasing.

3. Free Cash Flow (FCF)

Free cash flow is equal to corporate cash flow which doesn't have any debt on its balance sheet. The calculation of free cash flow is as the calculation of table 3.

Table 3: the calculation of free cash flow

Description	Amount
Net income is added after taxation:	Xxx
Depreciation of tangible and intangible assets	Xxx
Increasing in working capital	(Xxx)
Increasing in the other assets	(Xxx)
Gross investment in fixed assets	(Xxx)
Received interest	Xxx
Book value of sold and set aside fixed assets	Xxx
Free Cash Flow	Xxx

The ratio between equity cash flow and free cash flow according to the method of calculation of reminded cash flows is as follow:

FCF=ECF+I(1-T)-?D

If company doesn't have any debt, equity cash flow and free cash flow become the same.

4. Capital Cash Flow (CCF)

Capital cash flow is available cash flow for all of creditors and shareholders and includes equity cash flow and creditors' cash flow which is equal to received interest minus the increase in the debt. If DKd=I

CCF=ECF+CFd=ECF+I- ?D

Regression model

Two-variable regression model has applied to test quantitative relationship between changes in investments of fixed assets with each flow and it has used from multi-variable regression model to test quantitative relationship between investments in fixed assets and all of cash flows.

The models of linear regression of this study are as follow:

Two-variable regression model to test the relationship between investments in fixed assets with accounting cash flow.

$$CASH_{ACF} = \alpha + \beta_1 INVEST + \varepsilon$$

Two-variable regression model to test the relationship between investments in fixed assets with free cash flow.

$$CASH_{FCF} = \alpha + \beta_3 INVEST + \varepsilon$$

Two-variable regression model to test the relationship between investments in fixed assets with capital cash flow.

$$CASH_{CCF} = \alpha + \beta_4 INVEST + \varepsilon$$

Multi-variable regression model to test the relationship between investments in fixed assets and cash flow.

$$CASH_{all} = \alpha + \beta_1 INVEST + \beta_2 INVEST + \beta_3 INVEST + \beta_4 INVEST + \varepsilon$$

In above regression model:

$CASH_{ACF}$ = accounting cash flow

$CASH_{ECF}$ = equity cash flow

$CASH_{FCF}$ = free cash flow

$CASH_{CCF}$ = capital cash flow

β_i = line slope

$INVEST$ = independent variable and

α = intercept

Study finding

Colmogrov-Smirenov test

This test has conduct to investigate normal distributed data with following statistical assumption:

H_0 = data have normal distribution

H_1 = data don't have normal distribution

Table 4. the results of normal data distriburion

It has used from Colmogrov-Smirenov test to test the normality of the data. Its amount has calculated.

Colmogrov-Smirenov test		
	Prepared amount	**Meaningful level**

Investment variable in fixed assets	0.028	0.615
Free cash flow variable	0.250	0.540
Capital cash flow variable	0.335	0.700
Equity cash flow variable	0.290	0.630
Accounting cash flow variable	0.410	0.820

All of the variables, as seen in table 4, have a normal distribution.

Test research hypothesizes

The first hypothesize testing

H_0 = there is no a meaningful relation between investment in fixed assets with accounting cash flow of productive companies.

H_1 = there is a meaningful relation between investment in fixed assets with accounting cash flow of productive companies.

It has used from simple linear regression to test this hypothesize, the model of first hypothesize is as follow:

$$CASH_{ACF} = \alpha + \beta_1 INVEST + \varepsilon$$

Table 1-4 shows the results of simple linear regression for the first hypothesize.

Table 5: The results of first hypothesize of regression model

Model	β coefficient	Freedom degree	Correlation coefficient (F)	Meaningful level (Sig)	Confidence level
$CASH_{ACF} = \alpha + \beta_1 INVEST + \varepsilon$	-0.40	85	0.45	0.000	0.95

As it is shown in table 5, correlation coefficient is positive between capital changes in fixed assets with accounting cash flow. The obtained beta coefficient in the model is negative that has shown an inverse relation between dependent and independent variables. It is a meaningful relation smaller than 0.05. Thus, we can say about confidence level of 0.95 that there is a meaningful between capital changes in fixed assets with accounting cash flow of productive companies.

Second hypothesize testing

H_0 = there is no meaningful relation between investment in fixed assets and equity cash flow of productive companies.

H_1 = there is a meaningful relation between investment in fixed assets and equity cash flow of productive companies.

It is used from linear regression to test this hypothesize, second hypothesize model is as follow:

$$CASH_{ECF} = \alpha + \beta_2 INVEST + \varepsilon$$

Table 2-4 shows the results of simple linear regression testing for second hypothesize

Table 6: the results of second hypothesize of regression model

Model	Beta coefficient	Freedom degree	Correlation coefficient (F)	Meaningful level (Sig)	Confidence level
$CASH_{ECF} = \alpha + \beta_2 INV.$	0.157	85	0.888	0.180	0.95

As it is shown in table 6, correlation coefficient is positive between investment changes in fixed assets with equity cash flow. Also, obtained beta coefficient is positive in model that is a sign of effective relation between dependent and independent variable of model. So, while a meaningful level is greater than 0.05, linear relation is not meaningful between these two variable. Thus, we can say in the confidence level that there is no a meaningful relation between investment in fixed assets with equity cash flow of productive companies.

Third hypothesize test

H_0 = there is no a meaningful relation between investment in fixed assets and free cash flow of productive companies.

H_1 = there is a meaningful relation between investment in fixed assets and free cash flow of productive companies.

It has used from simple linear regression to test this hypothesize, third hypothesize model is as follow:

$$CASH_{FCF} = \alpha + \beta_3 INVEST + \varepsilon$$

Table 3-4 shows the results of simple linear regression for third hypothesize.

Table 7: the results of regression model of third hypothesize

Model	Beta coefficient	Freedom degree	Correlation coefficient (F)	Meaningful level (Sig)	Confidence level
$CASH_{FCF} = \alpha + \beta_3 INV.$	0.168	85	0.817	0.000	0.95

As it shows in table 7, correlation coefficient is positive between investment changes in fixed assets with free cash flow. Also, obtained beta coefficient is positive in model (0.168) that is a sign of

direct relation between dependent and independent variable of model. This means that free cash flow changes by increasing the investment changes in fixed assets in a year is positive at the same year.

Also, a meaningful level is smaller than 0.05. So, we can say in confidence level 0.95 that there is a meaningful relation between investment changes in fixed assets with free cash flow of productive companies.

Fourth hypothesize testing

H_0 = there is no a meaningful relation between investment in fixed assets and capital cash flow of productive companies.

H_1 = there is a meaningful relation between investment in fixed assets and capital cash flow of productive companies.

It has used from simple linear regression to test this hypothesize, fourth hypothesize model is as follow:

$$CASH_{CCF} = \alpha + \beta_4 INVEST + \varepsilon$$

Table 4-4 shows the results of simple linear regression for fourth hypothesize.

Table 7: the results of regression model of third hypothesize

Model	Beta coefficient	Freedom degree	Correlation coefficient (F)	Meaningful level (Sig)	Confidence level
$CASH_{CCF} = \alpha + \beta_4 INV$	0.149	85	1.577	0.000	0.95

As it is shown in table 8, correlation coefficient is positive between investment changes in fixed assets with capital cash flow. Also, the obtained beta coefficient is positive in model (0.149) that is a sign of direct relation between dependent and independent variables of model. This means that capital cash flow changes by increasing the investment changes in fixed assets in a year is positive at the same year.

Also, a meaningful level is smaller than 0.05. Thus, linear relation is meaningful between these two variables. So, we can say in the confidence level 0.95 that there is a meaningful relation between investment changes in fixed assets with capital cash flow of productive companies.

Main hypothesize testing

H_0 = there is no a meaningful relation between investment in fixed assets and cash flow of productive companies.

H_1 = there is a meaningful relation between investment in fixed assets and cash flow of productive companies.

It has used from multi-variable linear regression to test this hypothesize, main hypothesize model is as follow:

$$CASH_{all} = \alpha + \beta_1 INVEST + \beta_2 INVEST + \beta_3 INVEST + \beta_4 INVEST + \varepsilon$$

Table 4-4 shows the results of multi-variable linear regression test to test main hypothesize.

Table 9: the results of regression model of main hypothesize

Model	Beta coefficient	Freedom degree	Correlation coefficient (F)	Meaningful level (Sig)	Confidence level
$CASH_{all}$	0.231	85	1.457	0.000	0.95

As it is shown in table 9, correlation coefficient is positive between investment changes in fixed assets with cash flow. Also, the obtained beta coefficient is positive in model (0.231) that is a sign of direct relation between dependent and independent variables of model. This means that cash flow changes by increasing the investment changes in fixed assets in a year is positive at the same year.

Also, a meaningful level is smaller than 0.05. Thus, linear relation is meaningful between these two variables. So, we can say in the confidence level 0.95 that there is a meaningful relation between investment changes in fixed assets with cash flow of productive companies.

Conclusion

Accounting is an information system that has some product for accessing a series of objects. The main purpose of accounting system is providing useful financial data for decision making and maybe this is the most logical and the most real aim that can be drawn for accounting and basic financial lists (the main product of accounting system) is the main tool of data transfer to users.

One of the main factors that each investor put his own particular attention in his decision making is cash flows. This means that investors are looking for companies that have cash flows that have has ability to pay his own debt. Now, these investors predict future cash flows by create a relation bridge between cash flows and the other accounting information (investment in capital assets).

In the present study, the results of which were presented in Chapter four, they were studied Whether or not the relationship between the investments changes in assets with cash flow changes. Hypothesize testing and simple and multiple regression ways tested using SPSS software. It wasn't found a meaningful relation in hypothesize test with a simple way for each of cash flows items and by a multiple way for all items of cash flows list, between investment variables in fixed assets and equity cash flow and it was found a positive and meaningful relation between investment variables in fixed assets and accounting cash flow and free cash flow and capital cash flow.

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