



## The Relationship between Financial Capital and Abnormal Yield in Newly-Arrived Companies in Tehran Stock Exchange

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**ABSTRACT:** Business and commercial units play significant role in economic structure of a country. Today, business units as main pillars of economic in countries consider a large volume of economic resources such as work force, material and capital and according to sale and produce volume, they have important role in economic progress and development in the countries. The main goal of this article is surveying relationship between financial capital and abnormal yield in investment companies in Tehran Stock Exchange. In this study, 106 companies from different industries were analyzed between 2007 to 2012 years. F and T statistics were used to test the hypotheses. Watson-Dorbin test was also used to test correlation model. The results indicate that there is a significant positive relationship between economic added value, residual income and book value with abnormal yield of stock in newly-arrived companies to Stock Exchange.

**Key words:** financial capital, abnormal yield, economic added value, residual income

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### INTRODUCTION

Business and commercial units play significant role in economic structure of a country. Today, business units as main pillars of economic in countries consider a large volume of economic resources such as work force, material and capital and according to sale and produce volume, they have important role in economic progress and development in the countries. For this reason, discussion about published financial information (such as company's sale, debt ratio, net income ratio and investment return ratio) is very effective for determining and identifying optimal stock and timely and correct financial information is considered to identify optimally. Various researches and studies have been conducted in the field of initial release of stock and securities all around the world. One of the main issues in this area is to consider the changes of new stock yield in comparison with output of price index of stock and securities during the time and also to identify effective factors on long-term performance of new stock. Besides conducted studies in different countries shows that long-term output in new stock is lesser than market output. Main topic in present study is identifying effective possible factors on abnormal yields. So this study tries to consider the relationship between financial capital and abnormal yield in newly-arrived companies to Tehran Stock Exchange.

### Theoretical Framework and Research

**Background:** Inside information that indicates a lack of transparency in market lead potential stockholders' concern and on the other hand, the one who has this information can gain the output more than ordinary output of stock. Basically, abnormal yield occurs when there is not correct and transparent information about company performance. Ambiguity and lack of

transparency in information can cause abnormal yield. Hence, it can be expected that there is a negative relationship between the information transparency, especially company profit, with gaining abnormal yield.

Cameron (2011) considered the relationship between abnormal yield and income of any stock using some measures including company size, transaction cost and P/E ratio. The results indicated that these factors are effective on company performance. Pollet and Wilson (2010) studied relationship between the average correlation and output of stock market. They found that the changes in variance of output of stock market can be related relatively to cumulative risk and abnormal yield of stock.

Yang and Kim (2009) considered relationship between abnormal yield with financing practices, company size and cash payments. The results showed that there is only a significant relationship between cash payments and abnormal yield among these factors.

Mestel et al. (2003) considered relationship between stock yield, yield fluctuations (instability) and transaction volume. The results showed that there is a dynamic simultaneous relationship between stock yield and truncation volume. These findings indicate that predicting one of the variables cannot improve awareness from other variables. In other words, the results show that there is a simultaneous relationship between yield fluctuation and transaction volume. Of other findings of this study is that yield fluctuation includes information about transaction volume in incoming future. Ashtab (2008) considered relationship between the accuracy of profit prediction

with abnormal yield in newly-arrived companies. His findings indicate that there a negative relationship between profit prediction and abnormal yield of stock.

**MATERIAL AND METHODS**

According to nature, this study tries to consider relationship between two qualitative variables. If there is a relationship, how much is relation amount and its capability for predicting. So present study will be used correlation methodology. It is should be noted that present study does not try to seek a casual relationship; rather, it only intends to search a possible relationship. Collected data will be calculated using Excel software and analyzed using Eviews and SPSS software applications. In this study, the relationship between financial capital and abnormal yield of investment companies in Tehran Stock Exchange by following calculations.

Independent variable of this study is financial capital. Financial capital will be determined using some variables such as book value, residual income and economic added value in any stock which how they are calculated is as follows:

$$BVT = \frac{(TAt - TLt)}{WANSt}$$

$$RIT = \frac{(NIt - rt.BVt - 1)}{WANSt}$$

$$EVAT = \frac{(NOPATt - rt.Capital t - 1)}{WANSt}$$

So general relationship for independent variable is following:  $FCit = \alpha_0 + \alpha_1 BVit + \alpha_2 Rlit + \alpha_3 EVAit$

Dependent variable of this study is abnormal yield of net stock. Cumulative abnormal yield of new stock will be calculated following:

$$ar_{it} = r_{it} - r_{mt}$$

Stock yield will be calculated as follows:  
 $(1 + \text{Percent priority right} + \text{Percent bonus shares})$

$$R = \frac{Pt - Pt - 1 + DPS - (1000 * \text{Percent priority right})}{Pt - 1}$$

And market yield is estimated ad follows:

$$r_{mt} = \frac{I_{mt} - I_{m0}}{I_{m0}}$$

After calculating monthly abnormal yield, following equation is used to calculate average abnormal yield (n) of typical stock in month t.

$$AR_t = \frac{1}{N} \sum_{i=1}^n ar_{it}$$

After calculating average rate of abnormal yield of stock n in month t, following equation will be used to estimate cumulative abnormal yield:

$$CAR_{q-s} = \sum_{t=q}^s ar_{it}$$

**Research Model**

$$CAR_{q-s} = \beta_0 + \beta_1 FCit + \epsilon_{it}$$

**RESULTS**

**Main Hypothesis of Research:** there is a significant positive relationship between financial capital and abnormal yield of stock in newly-arrived companies to stock exchange.

Possibly amount (or significant level of F) is 0.039. Because this figure is leseer than 0.05, so hull hypothesis (lack of relationship between two variables) is rejected in 95 confidence level. It means there is a significant model. Amount of determination coefficient is 0.059. It means that 95% of changes of dependent variable is explainable by independent and control variables. This determination coefficient is practically low. Statistic amount of Watson - Dorbin is 2.04 that this figure shows lack of autocorrelation (confirming another else of defaults). This is how to judge if t is a rejection zone, null hypothesis will not be accepted. Therefore, as it can be seen in above table. Amount t is -2.097 for financial capital. So company size variable is rejected in 95% confidence level. Amount of T-statistic is 1.69 for representing accepting null hypothesis for so, there was a reverse relationship between variables of cumulative abnormal yield with financial capital of companies. In other words, increasing financial capital will lead to decrease cumulative abnormal yield of companies.

**First sub-main hypothesis: there is a significant positive between economic added value and abnormal yield of stock in newly-arrived companies to stock exchange:** Possibility amount (significance level of F) is 0.259. Because this amount is more than 0.05, then null hypothesis (lack of relationship between two variables) is accepted in 95% confidence level. It means there is not significance model. Determination ratio is 0.015. It means that only 15% from the changes of dependent variables is explainable by independent and control variables. This determination ratio is practically a low amount. Statistic amount of Watson - Dorbin is 3.39 representing lack of autocorrelation (approve of another else defaults). This is how to judge if t is a rejection zone, null hypothesis will be rejected. So as it can be seen from above table, t amount is -1.16 for economic added value.

Then null hypothesis will not be rejected for company size in 90% confidence level. Also t statistic amount is 0.663 for (Intercept) representing lack of rejecting null hypothesis for (Intercept). So it is observable a reverse relationship between economic added value and abnormal yield of stock. Hypothesis 1 is not approved meaning there is a significant positive relationship between economic added value and abnormal yield of stock in newly-arrived companies to stock exchange.

**Second sub-main hypothesis: there is a significant positive relationship between residual income and abnormal yield of stock in newly-arrived companies to stock exchange:** Possibility amount (or significance level of  $f$ ) is 0.073. Because this figure is more than 0.05, then null hypothesis (means lack of relationship between two variables) is accepted in 95% confidence level. It means that there is not significance model. Determination ratio figure is 0.044. It means that only 4.4 percent of the changes of

dependent variable is explainable by independent and control variables. This figure of determination coefficient is practically low. Statistic amount of Watson-Dorbin is 2.28 representing lack of autocorrelation (approve another else of defaults). This is how to judge if amount  $t$  is in reject zone, null hypothesis will be rejected. So as it can be seen from above table, amount  $t$  is 1.82 for residual income. Also statistic amount  $t$  is 1.33 for representing accepting null hypothesis for.

**Table 1.** Analytic result for testing main hypothesis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.244307	1.327025	1.691231	0.0952
LFCIT	-0.233923	0.111531	-2.097386	0.0396
R-squared	0.059128	Mean dependent var		-0.522242
Adjusted R-squared	0.045686	S.D. dependent var		1.262144
S.E. of regression	1.232975	Akaike info criterion		3.284122
Sum squared resid	106.4160	Schwarz criterion		3.347363
Log likelihood	-116.2284	Hannan-Quinn criter.		3.309298
F-statistic	4.399029	Durbin-Watson stat		2.046685
Prob(F-statistic)	0.039572			

**Table 2.** Analytic results of first sub-main hypothesis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.846272	1.275355	0.663558	0.5142
LEVAIT	-0.151832	0.130889	-1.160005	0.2591
R-squared	0.060218	Mean dependent var		-0.60485
Adjusted R-squared	0.015467	S.D. dependent var		1.199720
S.E. of regression	1.190406	Akaike info criterion		3.269407
Sum squared resid	29.75838	Schwarz criterion		3.368145
Log likelihood	-35.59818	Hannan-Quinn criter.		3.294239
F-statistic	1.345612	Durbin-Watson stat		3.395195
Prob(F-statistic)	0.259066			

**Table 3.** Analytic results for second sub-main hypothesis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.465732	1.100413	1.331984	0.1890
LRIT	0.302011	0.165192	1.828248	0.0736
R-squared	0.063858	Mean dependent var		-0.519175
Adjusted R-squared	0.044753	S.D. dependent var		1.310953
S.E. of regression	1.281283	Akaike info criterion		3.372027
Sum squared resid	80.44262	Schwarz criterion		3.447785
Log likelihood	-83.98669	Hannan-Quinn criter.		3.400976
F-statistic	3.342490	Durbin-Watson stat		2.284459
Prob(F-statistic)	0.073603			

**Table 4.** Analytic results of third sub-main hypothesis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.536035	0.163962	-3.269254	0.0017
LBVT	0.045573	0.213979	0.212979	0.8320
R-squared	0.000687	Mean dependent var		-0.526352
Adjusted R-squared	-0.014454	S.D. dependent var		1.289759
S.E. of regression	1.299047	Akaike info criterion		3.390109
Sum squared resid	111.3765	Schwarz criterion		3.455389
Log likelihood	-113.2637	Hannan-Quinn criter.		3.415975
F-statistic	0.045360	Durbin-Watson stat		2.282559
Prob(F-statistic)	0.832000			

So there is a direct relationship between residual income and abnormal yield of companies, but this relationship was not significant. In another words, there is not a significant positive between residual income and abnormal yield of stock in newly-arrived companies in stock exchange.

**Third hypothesis of research: there is a significant positive between book value and abnormal yield of stock in newly- arrived in stock exchange:** Possibility amount (or significance level of  $f$ ) is 0.832. Because this figure is more than 0.05, then null hypothesis (means lack of relationship between two variables) is accepted in 95% confidence level. It means that there is not a significance model. Determination ratio figure is 0.014. It means that only 1.4 percent of the changes of dependent variable is explainable by independent and control variables. This figure of determination coefficient is practically low. Statistic amount of Watson-Dorbin is 2.28 representing lack of autocorrelation (approve another else of defaults).

This is how to judge if amount  $t$  is in reject zone, null hypothesis will be rejected. Then null hypothesis will not be rejected for size company variable in 95% confidence level. Also statistic amount  $t$  is -3.26 for (Intercept!) representing the rejection of null hypothesis for (Intercept!). So research hypothesis is rejected. It means that there is not a significant positive relationship between book value and abnormal yield of stock in newly-arrived companies in stock exchange.

## DISCUSSION

Useful information is the base of decision of people who participate in capital market. Collectors of accounting standards try financial reporting and accounting system supply information needs of capital market. So, assessing usefulness of accounting information in stock assessment or being related accounting information to company value which has been paid attention in current researches, have been put as one of the main pattern in researches of financial accounting (Kordestani & Roudneshin, 2007:45). In this research, we seek that activists can increase their wealth with desirable stock selection and make value with predicting abnormal yields. Obtained results from hypotheses are as follows respectively.

**Main Hypothesis of Research: there is a significant positive relationship between financial capital and abnormal yield of stock in newly - arrived to stock exchange:** The conclusion of this hypothesis states that there is a reverse relationship between the variables of cumulative abnormal yield rate and financial capital of companies. In other

words, increasing financial capital leads to decrease cumulative abnormal yield rate of companies. It be noted that obtained conclusion of this hypothesis is compatible with Lokani and Fert studies (2005). Cameron and Truong (2011) considered the relationship between abnormal yield, income and capital and they stated that there is a significant relationship and these criteria are influential on company performance.

**First sub-main hypothesis: there is a significant positive between economic added value and abnormal yield of stock in newly-arrived companies to stock exchange:** According to analytic survey, determination coefficient is 0.015. It means that only 1.5 percent of the changes of dependent variable is explainable by independent and control variables. This figure is low in practice and there is a reverse relationship between economic added value variables and abnormal yield of stock. It means that abnormal yield of stock will decrease with increasing economic added value. This hypothesis states that abnormal yield mentions to a part of stock yield which is more than predicted yield by market fluctuations. It has a reverse relationship with economic added value which is performance measurement criterion and calculates correctly the ways resulting to increasing or decreasing company value. Economic added value represents residual income after subtracting capital costs. Economic added value is considered as a simple performance criterion, provides a real image from making wealth for stockholders and contributes to take decisions about investing and identifying opportunities for improvement and attention to short-run benefits similar to long-term benefits to managers. The role of Economic added value is to analyze logically usefully from financial condition and financial performance in comparison with accounting income. The results of this hypothesis are compatible with conducted researches including Giancarlo Giudici et al (2005). They state that more supply of new stock of companies, more economic added value and less abnormal yield. Above hypothesis is not compatible with conducted research by Merio Levis (1993) who states supplying new stock along with discount leads to increase abnormal yield of stock in short-run.

**Second sub-main hypothesis: there is a significant positive between residual income and abnormal yield of stock in newly-arrived companies to stock exchange:** Determination coefficient is 0.044 meaning only 4.4 percent of the changes of dependent variable are explainable by independent and control variables. This determination coefficient is little in practice. But there is a direct relationship between residual income and abnormal yield of stock. Yet this relationship was not significant.

In other words, there is not a significant positive between residual income and abnormal yield of stock in newly-arrived companies to stock exchange. Residual income is determined in form of accounting income and in limits of normal yields. Normal yields are the profits are calculated based on the rate of certain capital cost and book value of any stock at the beginning of period by multiplying book value of any stock at early period by capital cost rate of company. The application of residual income contributes analysts to attend to profit prediction patterns instead of explaining merely about how selecting an accounting approach will be influential on book value of dividends in current period and also future profits. According to theoretical principles of residual income and statistical test of this hypothesis, it can be said that there is not a significant relationship between residual income and abnormal yield of stock. But this low relationship is a direct relationship too. Speaking correctly, independent variable (residual income) has only 4.4 percent the effect of independent variable (abnormal yield rate). This result is not compatible with the researches such as Riter (1991) and Coli and Surt (2003) who state there is a significant relationship between them.

**Third hypothesis of research: there is a significant positive relationship between book value and abnormal yield of stock in newly-arrived companies to stock exchange:** According to statistical results, determination coefficient is 0.014. It means that only 1.4 percent of the changes of dependent variable is explainable by independent and control variables. So research hypothesis is rejected meaning there is not a significant positive relationship between book value and abnormal yield of stock in newly-arrived companies to stock exchange. It should be noted that book value usually doesn't correspond with market value. Because book value is based on value of registered properties in balance sheet, while market value is based on investors' assessments from common value of company properties and manner of its operation. According to statistical test, there is not a significant relationship in this hypothesis. One of the research limitations is that there is not related research with this topic. In fact, this research has considered the variables which have been conducted narrow researches on them. For example, some researcher such as Aksu (2003), Yang and kim (2009) and Baginski and Hassel (1997) considered the effect of company size on book value, market value and previous information about surplus profit. According to results, the hypotheses of this research state that pricing phenomenon is a universal phenomenon similar to initial public offering of stock and it is not limited to a particular capital market. However,

amount of abnormal yield differs from a county to another country, in spite of initial public offering of stock makes positive yield in the short-term, but investors suffer negative yield in comparison with market portfolio in the long- term. On the other side, it should be noted that any evaluation model is used in discounted cash flows. It can be considered as a model based on residual income. EVA model (economic added value) consists of analyst's assumptions about book value of stock and future profits which it is not possible having not additional accounting information. This process requires analysts to correct accounting figures and maintain additional relations. Against EVA model, RI (residual income) and AEG models use the growth of abnormal yields of reported and existing figures. Book value of any stock in current period, cash earning and predicted earning make possible for the analysts to emphasize on financial statement analysis for determining growth rate in spite of neutralizing accounting methods.

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