

Contents lists available at Sjournals



Journal homepage: www.Sjournals.com



Original article

The relationship between earning and price momentum with respect to the life cycle and the size; evidences from Iran's capital market

M. Eftekhari^{a,*}, M. Zanjirdar^b, M. Sharifnejad^c

^aMaster of Science in Accounting, Department of Management, Science and Research Branch Markazi, Islamic Azad University, Arak, IRAN.

^bAssistant Professor, Department of Management, Arak Branch, Islamic Azad University, Arak, IRAN.

^cLecturer, Department of Management, Arak Branch, Islamic Azad University, Arak, IRAN.

*Corresponding author; Master of Science in Accounting, Department of Management, Science and Research Branch Markazi, Islamic Azad University, Arak, IRAN.

ARTICLE INFO

ABSTRACT

Article history:

Received 27 April 2014

Accepted 20 May 2014

Available online 29 May 2014

Keywords:

Portfolio

Share earnings momentum

Share price momentum

Life cycle

Firm size

The present research aims to study the relationship between earning and price momentum in the companies listed in Tehran's Stock Exchange with respect to the life cycle and the size. For this purpose, the data for 80 companies listed in Tehran's Stock Exchange, during 2006 to 2011 has been gathered. In this study, research hypotheses are tested by multi-factor regression model and F-test and also T-test. The findings obtained in this research indicate that there is a significant relationship between earnings momentum and share price momentum, and the variables of life cycle and firm size are among the factors affecting the relationship between main variables and also increase the modified determination coefficient. So that, in large companies which are in mature stage of life cycle, this relationship is confirmed and it is rejected at other stages.

© 2014 Sjournals. All rights reserved.

1. Introduction

In recent years, regarding to the researches, many assumptions of modern financial theory have been challenged. One of the most challenging observations in financial markets is that, unlike Efficient Market Theory which is the infrastructure of several theories proposed in modern financial theory, return on ordinary share over different intervals has specific behavior and individual investors also can achieve a return more than market return without any more risks and only by applying appropriate investment strategy. In most exchanges in the world, researchers have studied the efficiency and the relationships between different investment strategies. Currently, one of the transaction and portfolio management strategies broadly used in the world's capital markets and its profitability to make additional returns also has been approved in several researches, are momentum and contrarian strategy. These strategies are standing against Efficient Market Theory; thus, confirming the profitability of them and considering the factors affecting on the explanation of the relationships between these strategies can be a basic challenge in opposition to the modern financial theory and the efficiency of market. The present study reviews the literature of research and explains the assumptions, methodology, findings and data analysis and present the conclusion and recommendations at the end.

2. Materials and methods

A notable and considerable literature has been documented on transaction strategies, its types, and their profitability. - Yao Zheng ,Peihwang Wei and Eric Osmer (2012) in a research investigated the relationship between earning and price momentum in different periods. They found by using theoretical framework of Marcov Switching causing changes in high and low fluctuations that price momentum will be increased significantly with earning's acceleration in high fluctuation state. In addition, limited financial resources and sensitivity of investor to the opportunities in the future may explain these two phenomenon. Markowitz and Grinblatt (1999) found a strong and stable momentum effect. They showed that previous winner share purchase strategy and previous loser share sale strategy even after controlling the size effect, the ratio of book value to market value, individual share momentum, and dispersion in average return is profitable. Rouwenhorst (1998) by using the data from 12 European countries during 1995-1980 found that winner portfolio performs better than loser portfolios and showed that continues return is adversely related to the firm size. Grinblatt and Titman (1989) by using momentum strategy found excess earnings, but they observed that momentum earnings are spoiled a year after the constitution of portfolio. Hong and Stein (1999) assumed that momentum is caused by gradual dispersion of specific information. Hong and Stein tested the hypothesis by using the data of U.S and found an evidence for the gradual dispersion of information assumption. Particularly, Hong et al (2000) proved that momentum strategy acts better in the share with less analyst coverage. They concluded that although the size is adversely related to the momentum earnings, excessive analyst coverage will evoke momentum effect in the capital market of U.S after clearing size effect. In a European framework, - Doukas and Macknight (2005) found a proof for Hong and Stein's hypothesis which was consistent with the findings of Hong et al (2000). Macknight and Hu (2006) evaluated momentum earnings by using the variables of the ratio of book value to the market value, size and analyst coverage. And these variables were used as representatives for momentum earnings. They also concluded that momentum earnings are adversely related to the three above factors and BTM ratio, analyst coverage, and size are important respectively. Fama and French (1996) claims that a company with high BV/MV are valued companies which have value premium and make more profit than companies with lower BV/MV which are growing companies and have less growth. Lakonishok et al (1994) suggest that the market evaluate growing share upper than price and evaluate value share lower than price; thus it cause value premium for growing share. Accordingly, growing share is more likely to make more momentum earnings. The first research on the life cycle of companies in the field of accounting has been performed by Anthony and Ramesh. They investigated the relationship between performance criteria such as sale growth and capital costs with share market price by categorizing the life cycle into growth, maturation, and declination stages. They aimed to investigate market reaction to the accounting information published during different stages of life cycle. Their findings also show that there is a significant relationship between performance criteria

and share market price in different stages of life cycle; so that the relevance of sale growth criteria and capital costs is decreasing from emergence to declination stages.

2.1. Research hypotheses

There is a significant relationship between earning momentum and share price momentum.

Firm size is effective on the relationship between earning momentum and share price momentum.

Life cycle is effective on the relationship between earning momentum and share price momentum.

Life cycle and firm size are effective on the relationship between earning momentum and share price momentum.

The present research is applied in terms of objective, and is descriptive-correlational in terms of method and nature. The purpose of this research is to investigate the relationship between earning momentum (independent variable) and share price momentum (dependent variable). Linear regression model has been used to investigate the relationship between these two variables. Research hypotheses have been investigated at the confidence level of 95%. It should be noted that nonlinear relationship test was also performed between research variables; it was specified regarding to the value of F-statistic and significance level that linear regression presents the best fitting of variables.

2.2. Data gathering and sample selection

This research has used library methods and reference to the archives for gathering required data. Research tools include financial statements, attached notes, and financial reports of studied companies, which were collected by RahavardNovin Software and Tehran Stock Exchange official website. The data were analyzed after categorization calculation through Excel and finally Eviews software.

The population of study consists of all companies listed in Tehran stock exchange during 2006 to 2010 which was 489 companies and the sample has been selected by considering the following items:

Companies accepted before research period

Their financial year is ended at 29 Esfand each year

Non-financial companies (because of different balance sheet)

Active transaction symbol and presence of share price during research period

Statement of seasonal earning and non-stop of transaction symbol more than 90 days

Completion of data

Finally, regarding to the above criteria, 80 companies were selected as targeted (systematic) sample.

3. Results and discussion

3.1. Research model and measurement method

The following model has been estimated for hypotheses test:

RPW-RPL

3.2. Variable definition

RM: return on momentum portfolio (difference between the return of two portfolios and abnormal low and high return)

α : interception

β_{ij} : variable coefficient

E(SUF-SUE): difference between the return of two portfolios and unexpected low and high earning

E(ABRH-ABRL): difference between the return of two portfolios and abnormal return around report date of low and high earning

E(SIZEH-SIZEL): difference between the return of two portfolios and low and high size

E(P/EH-P/EL): difference between the return of two portfolios and the ratio of price to earn per share

E(B/MH-B/ML): difference between the return of two portfolios and the ratio of book value to market value

(RM-RF): risk premium

RM=RPW-RPL

(2)

Dependent variable

Dependent variable in this research is momentum portfolio return. To determine abnormal return of share within study period in each fiscal year, modified market model has been used. In this model, it is assumed that market return is the result of expected process of stock return of companies in each intervals. Thus, the difference between stock real return and market return within period t indicates abnormal return of shares within period t. and the return of momentum portfolio is calculated as follow:

Where R_{pw} is equal to the return on winner portfolio and R_{pl} is the return on loser portfolio.

Independent variables

In this study, abnormal return around earning report date, and standardized unexpected earning are considered as independent variables. To measure the variables, the following indexes have been used:

$$ABR_i = \sum_{j=-2}^{i+1} (r_{ij} - r_{mj}) \quad (3)$$

Where r is return on share in day j. the day of declaring the last realized seasonal earning, $j=0$ and r is the return on cash index and price. We sum existing abnormal return from 2 days before to 1 day after report date to calculate abnormal return around earning report date. Standard unexpected earning is calculated as follow:

$$SUE_{it}^{(4)} = \frac{e_{iq} - e_{iq-4}}{\sigma_{it}}$$

e_{iq} = seasonal earning of share i, which has been reported in month t e_{iq-4} = 4 months earning of share i σ_{it} = standard deviation of unexpected earnings during 8 previous seasons

Control variables

Price to earnings ratio

Price to earnings ratio, which is one of the most popular ratio in market, is calculated as follow:

Price to earning = share price at the end of fiscal year/earn per share (5)

Book to Market value ratio

The ratio of book value to market value is basically calculated as follow: first, book value of normal share is determined by using the information of latest balance sheet. Market value is also specified by the product of market price of normal share at the last day of constitution of portfolio and the number of published shares. Then, book value of equity is divided by market value, so that this ratio is obtained. (6)

$$BV/MV = \frac{\text{Book Value}}{\text{Market Value}}$$

Firm size

Various methods are used to calculate the firm size. For example, some use total asset for this purpose. Sale is also used in some cases as firm size. In this study, market value has been used as firm size and is obtained by the product of market value at the last day of constitution of portfolio and the number of published shares.

$$\text{Size} = \log(\text{Market Value}) \quad (7)$$

$$\text{Market Value} = n * p \quad (8)$$

n = number of published shares

p = share price at the last day of constitution of portfolio

Since the firm size is larger than other variables, we make a logarithm form market value during calculation, so that it would be closer to other variables.

Risk premium

Risk premium is the difference between market return and risk-free return.

Life cycle

In this study, 3 stages have been defined for description of life cycle; including: 1- birth or emergence, 2- growth, 3- maturation, 4- declination or inertia; and the life cycle is determined based on sale growth criteria, change in capital costs, and life.

Because of using sectional data, regression model assumptions including variance conformity, lack of self-correlation between error terms, lack of linearity, and lack of normality of model, are tested and confirmed.

Table1

Categorization of companies based on life cycle.

Life cycle	SG	CEV	AGE
Growth	High	High	Young
Maturation	Medium	Medium	Mature
Declination	Low	Low	Old

First hypothesis test

To investigate the relationship between independent variable (share earnings momentum), dependent variable (price momentum), and control variables, a linear multi-variable regression model has been estimated. The results of model estimation and lack of Multicollinearity between all research variables have been presented in table 3. As it can be seen in table3, possibility of t-test for constant coefficient and variable coefficients of standard unexpected earnings and abnormal return to momentum portfolio return is less than 10%, and there is statistically a positive and significant relationship between dependent and independent variables at the presence of control variables. Regarding to the amount of Fisher statistic and its significance level, which are respectively 6.2655 and 0.0044, the model is competent. On the other hand, Durbin-Watson statistic is also 1.847 indicating the independence of residuals. Determination coefficient represents the explanatory power of independent variables which are able to explain 72% of changes in dependent variable. It should be noted that, none of control variables in the model are significant. Finally, the first hypothesis is accepted and regression model is presented as follow:

$$RM = 174.5242 + 0.419424E(SUEH - SUEL) - 0.966187 E(ABRH - ABRL)$$

Coefficient between independent variables is less than 0.5 indicating that Multicollinearity in such cases is negligible.

Table2

Descriptive statistics of variables.

RM_RF	BV/MV	P/E	SIZE	ABR	SUE	R _M	
-13.41389	119.4124	-98.62488	-32.22415	43.86836	161.3077	93.56902	Mean
-14.16500	135.8530	-86.54407	-0.252623	3.748476	192.8214	145.3252	Median
0.000000	387.2850	145.0740	215.8849	355.8542	522.8895	534.2822	Maximum
-25.18000	-203.9646	-466.7163	-446.0566	-93.99709	-364.4586	-578.6908	Minimum
6.662627	163.9638	160.4380	173.1270	119.1287	211.6437	220.5392	Standard deviation
0.281064	-0.315966	-0.686522	-0.768042	1.255452	-0.574930	-1.275024	Chew
2.554999	2.255721	3.130223	3.168765	3.907532	3.379448	6.486660	Stretch
18	18	18	18	18	18	18	Observations

Second hypothesis test

This hypothesis tests the effect of firm size on the relationship between independent variable (share earnings momentum), dependent variable (price momentum) at the presence of control variables. The results of model estimation and lack of Multi collinearity between all research variables have been

presented. Regarding to the results, t-statistic is 5.868 and significance level of 0.005 with positive coefficient of 0.470 confirm a positive and significant relationship between earn per share prediction error and abnormal return at the presence of control variables. Regarding to the amount of Fisher statistic and its significance level, which are respectively 2.877 and 0.006, the model is competent. On the other hand, Durbin-Watson statistic is also 1.831 indicating the independence of residuals. The amount of determination coefficient (0.282) means that multi-variable regression model explains approximately 28.2% of changes in abnormal return after a year of entering to the capital market. 71.8% of changes in abnormal return on share is influenced by other factors. In this period of time, none of control variables are significant. Finally, the second hypothesis is accepted and regression model is presented as follow:

$$RM = 179.161$$

Correlation coefficient between independent variables is less than 0.5 indicating that Multicollinearity in such cases is negligible.

Table3

First hypothesis test results.

$R_M = \alpha + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i4}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i5}(R_M - R_F) + e_{it}$				
T-Test Probability	T-Test Statistic t	Standard Error	Estimated Coefficient	Variables
0.0977	1.795862	97.18134	174.5242	
0.0671	2.012848	0.208373	0.419424	SUE
0.0164	-2.788490	0.346491	-0.966187	ABR
0.6277	0.497696	0.341893	0.170159	P/E
0.3497	-0.973147	0.265773	-0.258636	BV/MV
0.4563	0.769739	5.671591	4.365642	RM-RF
Dourbin-Watson	6.265539	F-Statistic	0.723041	Coefficient of Determination
1.847206	0.004411	F Probability	0.607641	Adjusted Coefficient of Determination

Third hypothesis test

The results of three sub-hypotheses of the third hypothesis have been presented in tables 4 to 7. As it can be seen from tables 4 and 6, among the stages of life cycle tested in the population of research: modified determination coefficient, significance level, f-statistic for the relationship between independent variable and control variables with dependent variable and confirmed hypothesis at different stages of life cycle are different. Therefore, sub-hypothesis 3-1 at the growth stage and sub-hypothesis 3-2 at maturation stage are confirmed; indicating that life cycle is effective on the relationship between earnings momentum and price momentum. It should be noted that, the highest determination coefficient between studied stages was observed in maturation stage. Regression model of sub-hypotheses 3-1 and 3-2 are represented respectively:

Table 5 shows that correlation coefficient between independent variables is less than 0.5 indicating that Multicollinearity in such cases is negligible.

This hypothesis investigated the effect of life cycle and firm size on the relationship between independent variable, dependent variable, and control variables simultaneously. The results of three sub-hypotheses of the fourth hypothesis have been presented in tables 8 to 13. As it can be seen from tables 8, 10, and 12, among the stages of life cycle and size levels tested in the population of research: modified determination coefficient, significance level, f-statistic for the relationship between independent variable and control variables with dependent variable and confirmed hypothesis at different stages of life cycle and firm size are different. Therefore, sub-hypothesis 4-2 at maturation stage and large size companies is confirmed; indicating that life cycle and firm size are effective on the relationship between earnings momentum and price momentum.

Table4

Hypothesis3-2 test results.

$$R_M = \alpha + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i4}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i5}(R_M - R_F) + e_{it}$$

T-Test Probability	T-Test Statistic t	Standard Error	Estimated Coefficient	Variables
0.6678	0.439997	54.55980	24.00616	
0.0061	3.322955	0.253289	0.841669	SUE
0.1048	-1.754714	0.267663	-0.469672	ABR
0.9197	0.102990	0.356761	0.036743	P/E
0.0615	-2.062690	0.481853	-0.993912	BV/MV
0.9956	0.005599	3.553683	0.019895	RM-RF
Dourbin-Watson	6.069983	F-Statistic	0.716646	Coefficient of Determination
1.746630	0.005004	F Probability	0.598582	Adjusted Coefficient of Determination

Table5

Multi collinearity results for the Hypothesis3-2 statistical model.

(RM-RF)	BTM	P/E	ABR	SUE	R _M	
0.409940	-0.483914	0.460753	-0.150899	0.479119	1.000000	R _M
0.254429	-0.078878	0.116270	0.011532	1.000000	0.579119	SUE
0.162925	-0.245440	-0.053277	1.000000	0.011532	-0.150899	ABR
0.370407	-0.765760	1.000000	-0.053277	0.116270	0.460753	P/E
-0.425622	1.000000	-0.465760	-0.245440	-0.078878	-0.483914	BTM
1.000000	-0.425622	0.370407	0.162925	0.254429	0.409940	(RM-RF)

Fourth hypothesis test

Table6

Hypothesis3-3 test results.

$$R_M = \alpha + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i4}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i5}(R_M - R_F) + e_{it}$$

T-Test Probability	T-Test Statistic t	Standard Error	Estimated Coefficient	Variables
0.4674	0.750603	67.01837	50.30422	
0.7049	0.387931	0.344596	0.133679	SUE
0.4156	-0.843294	0.355835	-0.300074	ABR
0.6543	0.459262	0.365531	0.167875	P/E
0.6566	-0.455969	0.460864	-0.210140	BV/MV
0.9478	0.066817	3.900783	0.260638	RM-RF
Dourbin-Watson	0.229841	F-Statistic	0.087397	Coefficient of Determination
1.600143	0.942198	F Probability	-0.292854	Adjusted Coefficient of Determination

$$R_M = 51.28368 - 0.896651 E(ABR_H - ABR_L) - 1.028604 E\left(\frac{B}{M_H} - \frac{B}{M_L}\right)$$

$$R_M = 51.28368 - 0.896651 E(ABR_H - ABR_L) - 1.028604 E\left(\frac{B}{M_H} - \frac{B}{M_L}\right)$$

$$R_M = 24.00616 + 0.841669 E(SUE_H - SUE_L) - 0.993912 E\left(\frac{B}{M_H} - \frac{B}{M_L}\right)$$

It should be noted that, the highest determination coefficient between studied stages was observed in maturation stage. Regression model of sub-hypotheses 4-2 is represented respectively:

Table7

Multi collinearity results for the Hypothesis3-3 statistical model.

(RM-RF)	BTM	P/E	ABR	SUE	R _M	
0.063852	0.080183	0.160452	-0.232383	0.080798	1.000000	R _M
0.067446	0.401300	0.030010	-0.089676	1.000000	0.080798	SUE
-0.164630	-0.603667	-0.190078	1.000000	-0.089676	-0.232383	ABR
0.130274	0.186307	1.000000	-0.190078	0.030010	0.160452	P/E
0.166907	1.000000	0.186307	-0.603667	0.401300	0.080183	BTM
1.000000	0.166907	0.130274	-0.164630	0.067446	0.063852	(RM-RF)

Table8

Hypothesis4-1 test results.

$R_M = a + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i3}E(SIZE_H - SIZE_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i5}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i6}(R_M - R_F) + e_{it}$				
T-Test Probability	T-Test Statistic t	Standard Error	Estimated Coefficient	Variables
0.6383	0.483419	35.74813	17.28132	
0.3194	1.042820	0.185020	0.192943	SUE
0.1355	-1.610695	0.184760	-0.297592	ABR
0.1800	-1.431910	0.251781	-0.360527	SIZE
0.2042	1.349881	0.214422	0.289445	P/E
0.0514	-2.185136	0.299364	-0.654152	BV/MV
0.3977	-0.879951	2.462566	-2.166936	RM-RF
Dourbin-Watson	2.407810	F-Statistic	0.567727	Coefficient of Determination
1.490869	0.098084	F Probability	0.331941	Adjusted Coefficient of Determination

Table9

Multi collinearity results for the Hypothesis4-1 statistical model.

(RM-RF)	BTM	P/E	SIZE	ABR	SUE	R _M	
-0.036811	-0.490186	0.411176	0.325789	-0.310796	0.356535	1.000000	R _M
-0.036600	-0.405333	0.272654	0.405794	0.047771	1.000000	0.356535	SUE
-0.118721	-0.224508	-0.360355	-0.091543	1.000000	0.047771	-0.310796	ABR
0.074963	-0.436142	0.430959	1.000000	-0.091543	0.405794	0.325789	SIZE
0.285671	-0.410566	1.000000	0.430959	-0.360355	0.272654	0.411176	P/E
-0.051825	1.000000	-0.410566	-0.436142	-0.224508	-0.405333	-0.490186	BTM
1.000000	-0.051825	0.285671	0.074963	-0.118721	-0.036600	-0.036811	(RM-RF)

Table10

Hypothesis4-2 test results.

$$R_M = \alpha + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i3}E(SIZE_H - SIZE_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i5}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i6}(R_M - R_F) + e_{it}$$

T-Test Probability	T-Test Statistic t	Standard Error	Estimated Coefficient	Variables
0.8153	0.239220	56.28186	13.46373	
0.0086	3.187684	0.316215	1.007992	SUE
0.0948	-1.828112	0.271641	-0.496591	ABR
0.3912	0.892487	0.258024	0.230283	SIZE
0.9896	0.013360	0.361597	0.004831	P/E
0.0727	-1.984883	0.486956	-0.966551	BV/MV
0.9814	0.023909	3.584957	0.085712	RM-RF
Dourbin-Watson	5.105308	F-Statistic	0.735779	Coefficient of Determination
1.871677	0.009746	F Probability	0.591659	Adjusted Coefficient of Determination

Table12

Hypothesis4-3 test results.

$$R_M = \alpha + \beta_{i1}E(SUE_H - SUE_L) + \beta_{i2}E(ABR_H - ABR_L) + \beta_{i3}E(SIZE_H - SIZE_L) + \beta_{i4}E\left(\frac{P}{E_H} - \frac{P}{E_L}\right) + \beta_{i5}E\left(\frac{B}{M_H} - \frac{B}{M_L}\right) + \beta_{i6}(R_M - R_F) + e_{it}$$

T-Test Probability	T-Test Statistic	Standard Error	Estimated Coefficient	Variables
0.4875	0.718321	71.44576	51.32099	
0.7126	0.378014	0.364485	0.137780	SUE
0.4375	-0.805608	0.371684	-0.299432	ABR
0.9449	0.070680	0.333879	0.023599	SIZE
0.6703	0.437310	0.406458	0.177748	P/E
0.6714	-0.435752	0.481284	-0.209720	BV/MV
0.9479	0.066869	4.076833	0.272616	RM-RF
Dourbin-Watson	0.176486	F-Statistic	0.087812	Coefficient of Determination
1.592603	0.977672	F Probability	-0.409746	Adjusted Coefficient of Determination

Table13

Multi collinearity results for the Hypothesis4-3 statistical model.

(RM-RF)	BTM	P/E	SIZE	ABR	SUE	R _M	
0.063852	0.080183	0.160452	-0.047161	-0.232383	0.080798	1.000000	R _M
0.067446	0.401300	0.030010	-0.182260	-0.089676	1.000000	0.080798	SUE
-0.164630	-0.403667	-0.190078	0.067563	1.000000	-0.089676	-0.232383	ABR
-0.093145	-0.135707	-0.353145	1.000000	0.067563	-0.182260	-0.047161	SIZE
0.130274	0.186307	1.000000	-0.353145	-0.190078	0.030010	0.160452	P/E
0.166907	1.000000	0.186307	-0.135707	-0.403667	0.401300	0.080183	BTM
1.000000	0.166907	0.130274	-0.093145	-0.164630	0.067446	0.063852	(RM-RF)

Table 11 shows that correlation coefficient between independent variables is less than 0.5 indicating that Multi collinearity in such cases is negligible.

Table11

Multi collinearity results for the Hypothesis4-2 statistical model.

(RM-RF)	BTM	P/E	SIZE	ABR	SUE	R _M	
0.409940	-0.483914	0.460753	-0.131232	-0.150899	0.479119	1.000000	R _M
0.254429	-0.078878	0.116270	-0.477023	0.011532	1.000000	0.479119	SUE
0.162925	-0.245440	-0.053277	0.103631	1.000000	0.011532	-0.150899	ABR
-0.057563	-0.160708	0.121444	1.000000	0.103631	-0.477023	-0.131232	SIZE
0.370407	-0.465760	1.000000	0.121444	-0.053277	0.116270	0.460753	P/E
-0.425622	1.000000	-0.465760	-0.160708	-0.245440	-0.078878	-0.483914	BTM
1.000000	-0.425622	0.370407	-0.057563	0.162925	0.254429	0.409940	(RM-RF)

4. Conclusions

The profitability of momentum strategies that cause abnormal return has been investigated and approved in several researches. Thus, regarding to the contradiction among financial theorists while some of them believe that price momentum is completely resulted from earning momentum, and other believe that some other factors are also effective on the creation of price momentum. And the effect of other incentives will be remained as a empirical question with respect to the life cycle and firm size. In this study, the two variables of standard unexpected earning and abnormal return around earning report date were used as the representatives for explaining earnings momentum and momentum portfolio return to describe the price momentum in capital market of Iran. The results of hypotheses test indicate the relationship between earnings momentum and price momentum; this relationship is approved in growing and mature companies without considering the size of existing companies. It shows that application of momentum strategy is profitable in mature and growing companies in respect and they are able to justify this relationship in a high level. Also, by considering the size of existing companies in the sample, this relationship is accepted only in large and mature companies and is rejected for other stages of life cycle. This result confirms the effect of using size on the relationship between these strategies and applying them to achieve additional return. The following recommendations are proposed based on the findings:

Comparative study of the relationship between transactional strategies and the factors affecting them during different periods of time

Evaluation of the profitability of momentum strategies and the factors affecting them by considering transaction costs.

References

Anthony, J.H., Ramesh, K., 2881. Association between Accounting Performance Measures and Stock Prices: A Test of the Life Cycle Hypothesis. *J. Account. Econom.*, Vol.24, pp 102-16.

Doukas, J., McKnight, P., 1004. European momentum strategies, information diffusion, and investor conservatism. *Eur. Financ. Manag.*, vol 22, no 2, p.p 222–227.

Fama, E.F., French, K.R., 2885. Multifactor Explanations of Asset Pricing. *J. Finan.*, vol 43, no 5, pp.1232-1273.

Grinblatt, M., Titman, S., 2878. Mutual fund performance: an analysis of quarterly portfolio holdings. *J. Bus.*, vol 51, no2, pp.283-324.

Hong, H., Lim, T., Stein, J.C., 1000. Bad News Travels Slowly: Size, Analyst Coverage, and the Profitability of Momentum Strategies. *J. Finan.*, vol. 44, no. 2, p. 154-184.

Hong, H., Stein, J.C., 2888. A Unified Theory of underreaction, Momentum Trading, and Overreaction in Asset Markets. *J. Finan.*, vol 43, no 5, pp. 1232-1273.

Lakonishok, J., Schleifer, A., Vishny, R., 2883. Contrarian Investment, Extrapolation, and Risk. *J. Finan.*, vol.38, no. 2, p.p. 2432–2467.

McKnight. P.J., Hou, T.C.T., 1005. The determinantst of momentum in the United kingdom. *Q. Rev. Econom. Finan.*, vol 35, no 1, pp (116-130).

Rouwenhorst, K.G., 2887. International Momentum Strategies. *J. Finan.*, vol. 42, no. 2, p.p. 156–173.
Zheng, Y.W., Peihwang., Osmer, E., The Relation between Earnings and Price Momentum: Does Vary Acr.
Reg., (1021),<http://ssrn.com/abstract=122852>.