European Online Journal of Natural and Social Sciences 2015; www.european-science.com
Vol.4, No.1 Special Issue on New Dimensions in Economics, Accounting and Management
ISSN 1805-3602

Consideration of the Effectiveness of Great Economic Variables on Stock Efficiency in Cement, Lime, Chalk and Automobiles Industry and Manufacturing Pieces

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Abstract

The purpose of this study is to identify the great economic variables which influence the stock efficiency in the industries of cement, lime, chalk and cars and manufacturing pieces in Tehran's stock market from 2006 to 2012. For this purpose, currency exchange rate, increase rate of cash flow, price of gold and long-term bank account profits were used as independent variables and stock efficiency was used as a dependent variable. In order to evaluate the assumptions, the t-test was used based on the pooled data. The findings of the study indicate that except for the price of gold, there is a meaningful relationship between all the research variables and the stock efficiency. Also, the results indicated that the stock efficiencies of the existing companies in the automobiles party are more sensitive to the changes of the great variables which are under evaluation.

Keywords: great economic variables, stock efficiency, currency exchange rate, cash flow increase rate, price of gold, long-term bank account profit

Introduction

Many studies have been carried out to identify and examine the factors which affect stock efficiency. These studies attempted to determine the collaboration between these factors and the stock efficiency. The variety factors affect the companies' stock efficiencies. Those factors are generally divided into three groups: great economic factors, factors related to industry and factors related to the company. Since each one of those factors include different aspects and their effects can be considered scientifically and have been under the consideration of financial researchers, the results of those studies are considered differently with respect to the study territory, type of property and the corresponding factors.

The purpose of this study is to consider the effect of great economic variables on the stock efficiency in the two industries of cement, lime, chalk and cars and manufacturing pieces from 2006 to 2012. The results of the research can be used by Potential and actual investors and other economic activists in the investment market. Also, policy makers, determiners of accounting standards, financial analyzers and researchers will benefit from the research results.

Theoretical basis of the study

The factors which influence the price of stock are numerous and unlimited. They can be classified in business, industry, national and international level market and non-market factors, and economic and non-economic factors. All of these factors can be classified into two "macro and micro". There are many factors in each category, for example, company factors such as ownership structure, management quality, quality of labor, interest rates, payment of dividends, net book value, and so on that will affect the investor's pricing decisions (Russell et al., 2009: 178). Among the important issues that have occupied financial economists' minds and have long attracted the investors and one of the key issues affecting their decision making process is understanding the mechanism of creating efficiency in the Stock Exchange and the relationship between risk and

return (Ra'ii and Pooyanfar, 2010). To understand the mechanism of creating efficiency and the relationship between risk and return, the agent models are used. The agent models are divided into two main groups, single-agent and multi-agent models. In the single-agent model, it is assumed that stock efficiency is only dependent on one factor which is the market portfolio. In this model it is assumed that changes in the portfolio of the stock market is the one factor that leads to simultaneous stock changes. A single-agent model that expresses the relationship between risk and expected return is the Capital asset pricing model.

Capital Asset Pricing Model

Capital asset pricing model (CAPM) was presented by Sharp in 1964. This model corresponds to the return rate of the market using a linear relationship between two independent variables, namely the risk-free rate of return and the sensitivity of the risk-free rate of return, and determines the price of the asset. The model is shown in equation (1).

$$E(Ri)=R_F+\beta(R_M-R_F) \quad (1)$$

Where: E (Ri) is the expected stock return, RF is the stock return without risk, RM is the expected return of the investment complex of the market (such as stock exchange index), β: beta is a measure of invariable risk (uncontrollable or systematic risk).

Many studies over the years have shown that the CAPM model determines asset prices lower than the actual amount (e.g., Smith 1977, Lader et al. 1991). Brow and Heaton (2003), conceptualized market uncertainty where asset pricing is impossible, whether the pricing method is efficient or inefficient. Kong (2008) found that experimental tests of asset pricing models that are linear show that errors occur in asset pricing. Asset pricing will be effective only when asset prices reflect all available information existing in the market. And unaware traders do not exist in the market or cannot do anything outside of the market territory (Russell et al., 2009: 179).

Another approach which is widely used to describe and estimate the correlation between stocks is the usage of multifactor models. The main objective of multifactor models is to find some nonmarket influences that lead to the movement of stocks coupled with each other. These include different economic phenomena and structural groups (industries). Factor models can be used in order to express expectations about returns and examine the effects of events (Namazi and Tabarkasgary, 2007). The basic premise of multifactor models is that the entire economy will affect most companies. One of the models in this area is the Arbitrage pricing theory.

The Arbitrage pricing model

In 1977, Ross proposed the Arbitrage Pricing Model (APT) as one of objecting models to the CAPM model. This model states that the price of the assets is affected by both market and non-market factors such as exchange rates, inflation and unemployment (Russell et al., 2009: 179). In other words, the return per share, depends, in part, on the "economic factors" and, in part, on something called the error factor which is shown in equation number (2).

$$Rj = a + b1jF1 + b2jF2 + b3jF3 + ej \quad (2)$$

Where "a" is the return which is derived if the values of other factors are zero. Fn is the value of variable n and bnj is the constant which indicates the changes in the share return compared to changes in each factor, and ej is the error factor (The Guide by Roodposhti and Salehi, 2014: 243).

In multi-index models, the price is affected by two separate groups of indices, a group of macro indicators such as economic growth, inflation, interest rates, exchange rates, and another group of micro indicators that are split into internal affairs of companies and economic units such as dividend policy, the company's short and long term plans and strategies, management decision making models, and so on (Sharp et al., 1995: 315).

The dynamic relationship between macroeconomic variables and stock returns have been examined widely. Our research is based on the theory that the stock prices reflect the present value of the future cash flows of that share (the present-value model). For this reason, both the future cash flows and the expected return rate (discount rate) is needed. Hence, the economic variables affect both the future cash flows and the expected return rates; thus, they can affect the stock prices (Alton and Graber, 1991). Meanwhile variables of economic models generally fall into two categories: the endogenous variables and exogenous variables. An endogenous variable is a variable that is determined inside the model such as the consumption variable (C) and the income variable (Y) in the consumption function of Yb + a = C. An exogenous variable is a variable whose value is given and determined outside the model, such as the independent use value of (a) in the consumption function. The variables, are divided into two categories based on their value: the nominal value and the actual value. The nominal value of a variable is derived by measuring it according to the present transaction prices (current prices, such as nominal income, nominal money supply and nominal interest rates. If the nominal value of a variable is adjusted according to price changes, in simpler words, if we cleanse the effects of price changes from the nominal value, the actual value is obtained. Thus, the actual value of each nominal variable is expressed in constant prices. (Tafazzoli, 1378, p. 18). Economic variables including liquidity growth rate, exchange rate changes, changes in the price of gold and long-term bank deposit interest rate is used are this study.

Return

The actual return on equity for companies listed on the Stock Exchange is calculated by equation (3):

$$R_{t+1} = \frac{(1+\alpha)P_{t+1} + Div - P_t - \beta(1000)}{P_t} \times 100 \quad (3)$$

Rt + 1 is the actual rate of return on equity over the period t + 1 and is expressed as a percentage. P is the price at the beginning of the course, Pt + 1 is the price at the end of the period, Div is the dividend during the period, α is the increase in capital investment percentage and β is the increase in capital investment percentage from the receivables and given cash. (Salehi, 2014). The above formula is not used in this study because some of its data is not available or are not announced by some companies, and the equation 4 is used in order to calculate the stock return and it is expressed in percentage.

$$R_{it} = \frac{P_t - p_{t-1}}{p_{t-1}} \quad (4)$$

Where Rit is stock returns, Pt is the price at the end of the period, and Pt-1 is the price at the beginning of the period.

Literature review

Anokim and Tounibeh (2008) examined the impact of macroeconomic variables on stock price indices in Ghana over the period between 1999 and 2007 and concluded that there is a long-term relationship between macroeconomic variables and the stock price index in Ghana. The analysis also shows that the variables of interest and interrupted inflation possess the ability to demonstrate changes in the stock market and that direct foreign investment, oil prices and the exchange rate have a weak impact on the stock price changes.

Abu-al-bashir et al (2012), in a study entitled “oil prices, exchange rates and emerging stock markets”, examined the relationship between oil prices, stock prices in emerging stock markets and exchange rates. The structural vectorial self-regression model was used in this study and the results

indicated that the positive shock by the oil price leads to the decrease of stock prices in the emerging markets and the American dollar exchange rate in the short term.

Muliadi and Anvar (2012), in their study titled as “gold vs. stock investment, econometric analysis”, compared the investment in gold and the stock market in Indonesia using the probit econometric model. The data from the period from 1997 to 2011 was examined and the results indicated that when the investors are losing, the gold return increases and the increase of the gold return has a linear effect on stock returns.

Sajjadi et al (2010), in a study entitled “Effect of macroeconomic variables on stock index at Tehran Stock Exchange” examined the relationship between the growth of stock indices (price and dividend yields) and a set of macroeconomic variables such as inflation, growth rates, liquidity, exchange rate, positive actual banking interest rates and positive oil revenue, while the relationship between liquidity growth rate and the inflation rate is negative. Also, no relationship was observed between the stock price index and exchange rate variables and actual bank account interest rates.

Vakili fard and Salehi (2010) examined the relationship between economic and accounting variables affecting the stock price at the Tehran Stock Exchange from 1382 to 1386. They used the Al Tamimi model (2007) and multivariate regression in order to identify variables of effect. The Independent economic research variables include GDP, exchange rate, liquidity, and independent variables accounting including each share’s interest, return on investment and operating cash flow and the dependent variable of the share price. The results showed that all variables have a significant relationship with stock prices.

Ansari (2013), in a study entitled “The effect of macroeconomic factors (exchange rate, inflation, oil prices) on the price of shares of companies listed in Tehran’s Stock Exchange” evaluated the relationship between oil prices, exchange rates and inflation on stock prices from 2006 to 2011 using seasonal data. For this, the multivariate regression model (least squares) was used with the help of Eviews software. The overall results gotten from the analysis indicate that the stock price at the Tehran Stock Exchange is directly related to inflation, and reversely related to the exchange rate and oil prices.

Jahantab (2013), in his study entitled “the evaluation of the impact of some macroeconomic variables on the Tehran Stock Exchange index”, examines the relationship between the Currency exchange rate, GDP, foreign investment and domestic investment and Tehran’s stock exchange price index over a period of twenty-three years from 1989 to 2012. In the study, the econometric model and the ARDL method and also the econometric programs Eviews and Microfit were used in order to test the assumption and estimate the coefficients. The results show that all coefficients are significant at the 90% confidence level.

Methodology

This study is correlational in nature and its objective is experimental. This study has a modular-inductive approach, and is considered to be a regression-type analysis among different types of correlation research. Also, since the data used in the present study is real and historical information, it is classified as post-event.

Statistical population of the study

The statistical research population includes firms listed in Tehran Stock Exchange in the automotive and manufacturing of pieces and cement, lime and plaster. The reason why those firms were chosen as statistical societies was the simplicity of access to their financial reports from various dates and also the larger number of the firms in the target society and the required data at the period of the research. The systematic elimination method is used to determine the sample. That way, all the firms in the statistical society which have the conditions listed below are considered to

be members of the statistical society, and the firms which lack at least one of the conditions are eliminated from the list. 5 criteria are considered for this purpose and if a company meets all the criteria will be selected as one of the companies in the sample. These criteria are as follows:

1. Having been a member of Tehran's Stock Exchange at least prior to 2006.
2. The Company's fiscal year, ending on March 20 each year.
3. The shares of the companies have to have been traded at the beginning and end of their fiscal year.
4. They have to have handed the financial statements for the end of their fiscal year to the stock exchange market in order to be studied.
5. The information required by the companies, especially the notes which come with the financial statements must be available in order to extract the required data.

After applying these constraints, 29 companies, including 15 companies from the automotive industry and 14 companies from the cement industry, have met all the terms required for presence in the statistical population. All 29 companies were selected for hypothesis testing. In this research, data collection is done in two steps. In the first step, the librarian method is used in order to establish the theoretical basis of the research (and referring to Persian and English theses and articles using the corresponding websites), and in the second step, information provided on the website of the Central Bank and financial statements presented to the Stock Exchange organization, and other relevant data sources such as Tadbirpardaz databases and Rahavard Novin were used in order to collect the desired information.

Research Hypotheses and model of the study

Based on the theoretical basis and background of the research, the research hypotheses are expressed as follows:

1. There is a meaningful relationship between the growth rates of liquidity and stock return in the two groups of companies of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.
2. There is a meaningful relationship between the changes in exchange rates and stock returns in the two groups of companies of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.
3. There is a meaningful relationship between gold prices and stock returns in the two groups of companies of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.
4. There is a difference between the return caused by the effects of economic variables of two groups of companies of cement, lime, plaster and vehicles and pieces manufacturing.

In this study, the following model was used for the hypotheses:

$$R_{IT}=\beta_0+\beta_1 \mathrm{R}cash_{it}+\beta_2 \mathrm{R}R_{it}+\beta_3 \mathrm{E}X_{it}+\beta_4 GP_{it}+\varepsilon_{it}$$

Where the independent variables include: R_{IT} which is the return on equity, $\mathrm{R}cash_{it}$ which is the growth rate of cash, $\mathrm{R}R_{it}$ which is the long-term bank deposit interest rate, $\mathrm{E}X_{it}$ which is the exchange rate, and GP_{it} which is the price of gold.

Findings

Descriptive statistics

In this section, prior to testing hypotheses, descriptive statistics for the research variables are presented in the tables (1) and (2). These statistics provide an overview of the distribution of

research data. Those indicators included the central parameters such as average, median, minimum, maximum, and deviation indicators including the standard deviation and the coefficient of skewness.

Table 1: Descriptive statistics - Automotive and pieces

RR	GP	RCASH	EX	R	
0.17	0.46	0.22	662.5	0.32	Average
0.17	0.29	0.22	0.021	0.31	Median
0.20	0.95	0.27	12260	0.78	Maximum
0.12	0.13	0.15	-0.03	0.001	Minimum
0.02	0.31	0.036	2505.4	0.20	Standard deviation
-0.93	0.75	-0.091	3.55	0.33	Skewness coefficient
105	105	105	105	105	Observations

Source: Researcher's Calculations

Table 2: Descriptive statistics - cement and lime industry

RR	GP	RCASH	EX	R	
0.17	0.46	0.22	0.04	0.28	Average
0.18	0.29	0.22	0.02	0.24	Median
0.20	0.95	0.27	0.18	0.85	Maximum
0.120	0.13	0.15	-0.03	-0.03	Minimum
0.02	0.31	0.03	0.06	0.19	Standard deviation
-1	0.75	-0.09	1.01	0.75	Skewness coefficient
98	98	98	98	98	Observations

Source: Researcher's Calculations

The main central index is the average which represents the point of balance and distribution center and is a good indicator to show the centrality of data. For instance, the average value for the dependent variable which is the stock return is 0.32 in the automotive industry and 0.28 in the cement industry, which indicates most of the data is focused around that point; in fact, the stock return average is 0.30 for those two industries. The median is another indicator which indicates the status of the population. As we can see, this variable's median is 0.31 in the automotive industry and 0.24 in the cement industry, which shows that half of the data is less and the other half are greater than this amount. In general, scattering parameters are indicators to determine the extent of their dispersion from one another or the extent of their dispersion from the average.

One of the main parameters of the dispersion is standard deviation. In the general study variables, interest rates and gold prices have the lowest and highest rates of dispersion, respectively. The asymmetry level of the frequency curve is called skewness. If the coefficient of skewness is zero, the population is totally symmetric; and if the coefficient is positive, skewness is to the right; and if the coefficient is negative, skewness is to the left. Among the study variables in the general model, the cash growth rate and the growth rate of foreign currency have the least and greatest value of skewness.

The correlation coefficients test

In order to determine the relationship between variables, Pearson's correlation coefficient was used. The correlation between the study variables and their significance statistic (Sig or p-value) is provided in the table (3). The correlation coefficient between the variables used in a model must not be high; because, the correlation between the independent variables in a regression model corrupts the regression results. As you can see in this table, the extent of correlation between the variables indicates significant correlation between these variables.

Table 3: Pearson correlation coefficients between the variables

RR	GP	RCASH	EX	R	Probability
				1	R
				-----	p.v
			1	-0.20	EX
			-----	0.00	p.v
		1	-0.071	0.075	RCASH
		-----	0.00	0.00	p.v
	1	-0.21	0.17	-0.019	GP
	-----	0.002	0.01	0.11	p.v
1	0.52	-0.77	0.50	-0.10	RR
-----	0.00	0.00	0.00	0.00	p.v

Source: Researcher's Calculations

Reliability of the variables in the study

Before the analysis and hypothesis testing, the reliability of the variables was studied. The reliability of the variables means that the average and variance of variables is fixed in the different years. As a result, the usage of these variables in the model will not cause false regression. The unit root test was performed using the test methods of Levin, Lin and Chu (2002), the extended Fisher Dickey-Fuller unit root test and the Fisher Phillips Peru unit root test (2001), and is shown in the table (4). Test results of the Variables reliability test show that the Prob[abilities] of all variables were less than 5% and the variables are reliable; therefore, the hypothesis of zero because of variables having a unit root is denied.

Table 4: Unit root tests for the variables

Fisher Phillips Peru		extended Fisher Dickey-Fuller		Levin, Lin and Chu		variables
p.v	statistic	p.v	statistic	p.v	statistic	
0.000	123.7	0.000	91.37	0.000	-10.13	R
0.000	229.4	0.000	165.5	0.000	-22.46	EX
0.000	193	0.000	131.3	0.000	-17.12	RCASH
0.000	182.9	0.000	176.3	0.000	-18.45	GP
0.000	134.7	0.000	141.69	0.000	-7.05	RR

Source: Researcher's calculations

Normality distribution test

Normality of the data must be considered first in order to use the regression model in a study, and the regression results are valid if the variables are normal; otherwise, some variables must be omitted or the model must be replaced. In order to test the normality of the variables in this study, the JB test (combinatorial data test) is used. The JB test is used in the Eviews7 software, and the test results are shown in Table 5.

As shown in Table (5), the variables normality test statistic and their significance level indicates the denial of the hypothesis H0 and approval of H1. In other words, the variables used in the regression models do not have a normal distribution.

Table 5: The normality test results for the dependent and independent variables

RR	GP	RCASH	EX	R	Variable name Test
1.56	0.31	-1.42	0.89	1.64	The test statistic Jarque-Bera
0.19	0.11	0.21	0.321	0.18	p-value

The process of model estimation using combined data

Before the test of the research hypothesis is addressed, we will mention how we will estimate of the models. In order to select between the panel data and pooled data methods, the Limmer F test (Chow) was used. In the Limmer F test, the H0 hypothesis of equal intercepts (pooled data) is opposed to the hypothesis H1, anisotropy Intercept (using panel data). The Limmer F test results are summarized in Table (6). The study confirmed the hypothesis H0; thus, the pooled data method was used.

Table 6: The F Limmer test results (equality of crossing intercepts)

type of test	test results	df	p-v	statistic F	research models	The Chow test
pooled data	H_0 is not denied	5.8	0.07	1.98	the automotive industry model	The crossing intercepts are the same.
pooled data	H_0 is not denied	5.8	0.12	1.70	the cement industry model	
pooled data	H_0 is not denied	5.8	0.24	1.34	overall research model	

Source: Researcher's calculations

The pooled data analysis

The results of the research model significance test that examines the relationship between macroeconomic factors and return on equity are expressed in the form of a pooled data analysis for each industry and altogether in Table (7):

Table 7: Results of the hypothesis testing

The third model (overall)			The second model (The cement industry)			The first model (The Automotive industry)			variables
P.v	statistic t	coefficient	P.v	statistic t	coefficient	P.v	statistic t	coefficient	
0.18	1.32	0.45	0.01	2.45	2.94	0.03	2.16	2.57	C
0.00	3.08	0.10	0.02	2.22	0.02	0.000	2.78	0.05	RCASH
0.002	-2.64	-0.02	0.000	-2.98	-0.04	0.000	-3.72	-0.05	EX
0.16	-1.42	-0.03	0.07	1.81	0.009	0.09	1.69	0.09	GP
0.00	-2.59	-0.03	0.01	-2.66	-0.02	0.03	-2.15	-0.01	RR
0.42			0.27			0.26			The adjusted determination coefficient (R2
(0.000) 54.8			(0.000) 31.78			(0.000) 30.87			F-static) p-v(
2.04			2.27			1.84			Watson camera

As it is clear from Table (7), the statistic F is significant in all of the three models, with a confidence level of 99%. Thus, the models of research are meaningful overall and the independent variables are able to explain the dependent variable. In addition, the adjusted determination coefficient derived from the model test is 0.26 in the automotive industry, 0.27 in the cement industry, and 0.42 overall. This figure shows that about, respectively, 0.26, 0.27 and 0.42% of the changes of the dependent variable, namely the stock returns, are caused by the independent variables present in the model; and the remaining changes were due to other factors that are either unavailable or hard to identify. Also, the observation of the values of the camera-Watson statistic indicates that there is no correlation between the disruption components of the model, because these values are from 1.5 to 2.5.

Data analysis and Results

The first hypothesis test results

The first hypothesis: There is a meaningful relationship between the rate of growth of cash and stock returns in the two company groups of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.

Results in the Table (7) acknowledge that the value of the statistic p-value (the error level) for the first hypothesis variable, i.e. liquidity growth in both industries and overall, is less than 5 percent. Note that the error considered for this study is 0.05; so there is a significant relationship between the liquidity growth variable and the stock returns and the first hypothesis is confirmed with a 95% confidence.

The second hypothesis test results

The Second hypothesis: There is a meaningful relationship between the exchange rate and stock returns of companies belonging to the two groups of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.

Results shown in the Table (7) acknowledge that the value of the statistic p-value (the error level) for the second hypothesis variable is less than 5 percent. Since the error level which has been considered for this study is 0.05, there is a significant relationship between the variable of exchange rate changes and stock returns; and this hypothesis is confirmed with a 95% certainty. The currency exchange independent variable coefficient of currency exchange changes is negative.

The third hypothesis test results

The third hypothesis: There is a meaningful relationship between gold price changes and stock returns of companies belonging to the two groups of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.

Results shown in the Table (7) acknowledge that the value of the statistic p-value (the error level) for gold price changes in both industries and overall is more than 5 percent. Since the error level considered for this study is 0.05, there is no significant relationship between changes in gold prices and stock returns and the third research hypothesis is not approved.

The fourth hypothesis test results

The fourth hypothesis: There is a meaningful relationship between the long-term bank deposit interest rate changes and stock returns of companies belonging to the two groups of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.

Results shown in the Table (7) acknowledge that the value of the statistic p-value (the error level) for the fourth hypothesis variable, in both industries and in total is less than 5 percent. Given that the level of error considered for this study is 0.05, the fourth research hypothesis is approved with a 95% certainty. The relationship between the long-term bank deposit interest rate and stock returns is negative and direct and the increase of the long-term bank deposit interest rate decreases stock returns.

The fifth hypothesis test results

The fifth hypothesis: There is a difference between the effects of economic variables and stock returns of companies belonging to the two groups of cement, lime, plaster and vehicles and pieces manufacturing in Tehran's Stock Exchange.

With the exception of the coefficient of the second hypothesis, in all assumptions, the coefficient of the variables of the automotive industry is greater than those of the cement industry and have more influence.

Discussion and Conclusion

In this study, the effect of macroeconomic variables on stock returns in the two industries of cement, lime, plaster and vehicles and pieces manufacturing was evaluated and the different effects on the two groups were discussed.

According to the first hypothesis, there is a meaningful relationship between cash growth rate and stock returns. Cash increase makes the demands for factory productions increase which affects their amount of production and pricing and helps them make profit; cash increase in the society also increases the demands for investment including investment in the stock exchange which leads to the increase of shares value and stock returns. The results of this hypothesis testing agree with the results of Garcia and Liu (1999), Torabi and Hooman (2010) and disagree with the results of Sajjadi et al (2008).

According to the second hypothesis results, there is a significant relationship between exchange rate changes and stock returns. The relationship between this variable and stock returns is of negative and direct type and the increase of exchange rates reduces the stock returns. As studies have shown, due to increased costs of imported goods and raw materials for manufacturing centers, costs of production and prices increase, and investments and stock prices decrease, and that eventually leads to decreased stock returns. Another reason for the reversed relationship between the exchange rate and stock returns is the migration of investments to the currency market when foreign currency prices increase. The results of testing this hypothesis agree with the results of Kondir (2008), Ghalibaf Asl (2002) and disagree with the results of Corny and Dally (1998).

According to the third hypothesis results, there is no significant relationship between changes in gold prices and stock returns, and the third hypothesis of the study was not confirmed. In most studies, the existence of a meaningful relationship between the stock returns and the gold prices was observed, which disagrees with the results of the study; it seems that this lack of correlation is due to excessive oscillations of the gold prices during the corresponding period, financial turmoil and the absence of efficient portfolio by the investors. The results of testing this hypothesis agree with the results of Tracy et Al. (2008) and disagree with the results Codert and Finn Gold (2011) and Hashemi Dehnavi (1392).

According to the fourth hypothesis, there is a significant relationship between the long-term bank deposit interest rate changes and stock returns. The relationship between the long-term bank deposit interest rate changes and stock returns is negative and direct; and the increase of long-term interest rates reduces stock returns. This variable’s coefficient is greatest in the automotive industry. To explain this relationship, it can be said that since the interest rate is one of the main components of the decline rate, the increase of the interest rate will increase investors’ expected efficiency and as a result, reduces the shares prices and the stock returns. The results of testing this hypothesis agree with the results of Anatolio (2008), the Bozorg Asl and Razavi (2009), and disagree with the results of research done by Berhamston and Ginarikel (2007) and Tracy et al (2008).

According to the results of the fifth hypothesis, the effect of independent variables is greater on the automotive and pieces manufacturing industry than it is on the cement, lime and plaster industry; and there is no significant relationship between gold price changes and stock returns. In fact, since the automotive industry is one of the largest industries in the country and consists a large part of the country's economy, the efficiency of those companies’ shares have a greater sensitivity and react more clearly to the changes of macroeconomic.

The results of this study suggest that investors in the stock market consider information regarding exchange rates and long-term bank deposit interest rates and also information about cash flow (due to their correlation with the stock market). Also, considering the results of the study, when cash flow is increasing, automotive industries have to be invested in; and when the ling-term bank

deposit interest rates are increasing, it is appropriate to invest in the cement industry. Furthermore, with respect to the formation of portfolios and investors' expectation to gain more returns and the lack of correlation between the gold prices and stock returns in the hypothesis test which was performed, and the high risk of this type of investment, it is not appropriate for the establishment of portfolios and it always contains the risk of loss. As a result, it is suggested that we invest in this particular type of asset very thoroughly and with enough information so that investors will not face the risk of depreciation of the investment value.

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