



The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

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Abstract. This paper reviews the relation between institutional investors (dedicated and transient) and synchronicity of stock prices. In this research the relation kind of dedicated and transient institutional stockholders with the price synchronicity (a scale to measure the relative amount of the company's specific information reflected in the price) have been examined considering the monitoring incentives and also the investment horizon of these investors. The hypotheses relating this research have been examined through simple and multiple linear regressions, panel data, and via Eviews software. The findings of this study indicates that the monitoring of dedicated institutional investors leads to reduce the access of managers to the cash flow of the company and also decreases the risk taken by managers which conclude to a decline in R2 and therefore the simultaneity of stock prices shrinks.

Keywords: Dedicated institutional investors, Transient institutional investors, synchronicity of stock prices

1. INTRODUCTION

Today we witness the increasing presence of institutional stockholders in the formation of the firm's investors which can have an important role in decision-making and the price of the company's stock. With increasing the number of institutional investors, a huge number of researchers and theoreticians consider these investors as dominant supervisors whose supervision is much more beneficial than usual investors.

Theoretical studies by (Maug 1998) and (kahn & winton 1998) shows that the investor's supervision has a tight relation with the amount of stock they own and the more stocks they have and the longer ownership period is, the more motivated they will be to do supervision. On the other hand when they have fewer stocks in case of weak operation of the company they transfer their stock and are less inspired to do the supervision.

(Bushee 1998) has grouped institutional investors into 3 parts on the basis of ownership stability: 1. The Dedicated institutional stockholders with stable ownership and high rank in the companies of their own portfolio. 2. Transient institutional stockholders owning high turnovers and little stocks in diverse companies. 3. Investor like people who rarely make transactions but have little stocks. Due to the more stocks and long-term investment horizon, dedicated institutional stockholders are more enthusiastic to supervise the companies in their portfolio.

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The reason why the R^2 relevant to the market model and other indicators of stock price synchronicity was more in developing countries has been known the weak support towards the investors' right (Morck et al.2000).

On the other hand this weak support towards investors alongside inexistence of transparency and the manager's extraction from the company's cash flow will lead to an increase in R^2 the way that low support from investors along with the narrow information will pave the way for managers to the issue which will result in higher variance and consequently higher R^2 (jin & Myers 2006)

2. THEORETICAL FOUNDATIONS

2.1 Institutional ownership

In theoretical view the institutional stockholders have a complex position in institutional investment. Charkham (1994) introduces to sorts of active institutional stockholders called as "a" and "b". The two mentioned investments are the two possible investments for organizations. The investment manager of "a" or the long-term institutional stockholder who tend to have long-term operation and the portfolio related to a limited number of firms and the investment manager of "b" named as transient institutional stockholder who emphasizes the transient operations with rather expansive portfolio from companies.

Bohle et al. (2007) have noted in their study that the presence of institutional investors in market leads that to a better performance. The way that institutional investors relying on their authority in market can supervise the information implemented by companies and professional manner and increase the information in terms of accuracy and authenticity.

Bushee (1998) mentions that the institutional investors via gathering information and pricing the management decisions as implicitly and through handling corporate performance explicitly supervise the operation of the firms.

Ti Sai (2009) has reviewed the institutional ownership and the stock efficiency. The results illustrate that the companies with more institutional ownership are the companies in which the managers are supervised more effectively and give more information to the investors.

2.2. Transient institutional ownership

Transient institutional stockholders are temporary investors whose most attention in stock pricing is the current interest rather than long-term interest (Bushee1998, Porter 1998). evaluating the operation and ranking the operation of institutional stockholders has made them motivated to adopt transient plans (Black & Coffee 1994, Stapledon 1996).

This transient plan prevents institutional stockholders to pay for supervision, because it's so far to be benefited in a short period (Porter 1992). Also due to the need to change the operation in portfolio in order to improve the performance the institutional investors do not have enough time and resources to involve themselves in supervising the companies existed in their portfolio (Black & Coffee 1994, Stapledon 1996). In this case Smith (1998) and Black (1998) have implemented that the institutional stockholders mostly focus on current income and prevent to involve monitoring issues and to accept active role concerning corporate governance.

The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

Bushee (2001) in his paper has resulted that such stockholders cares more about short-term income. Gaspar et al. (2005) showed that supervision of the investors depends on their investing plans and the weak supervision of transient institutional investors provide the opportunity for managers to benefit from the company's resources by the use of stockholders but in their own favor.

2.3. Long-term institutional ownership

Dobrzynski(1993) believe that the major ownership of institutional stockholders let them supervise the company managers which leads to make managers confident for choosing some range of investing which conclude to maximize the long-term benefits rather than transient profit making plans of the company (Dobrzynski 1995). According to this, we can result that this group of investors are mostly anxious about the long-term plans of the company and have a great motivation to have active participation in activities related to corporate governance and supervising the companies and can decrease the profit management (increasing interest leading to show the company better than its current position). These investors through their monitoring activities have better understanding of the situations influencing the firms operation and it is less probable to penalize the principals of their portfolio as a result of the low profit which is not because of their weak management. Thus in this doctrine it is supposed that the presence of long-term institutional stockholders will decrease the increasing profit resulted from income and reduces the managerial motivations for this issue.

Almazan et al. (2005) have reviewed the relation between institutional stockholders and monitoring costs. They had assumed that the role of institutional stockholders in controlling the management is vital, but this efficacy is not the same in institutional stockholders. The result showed that the institutional stockholders who do not have any business relation with the company have the fundamental role in organizing and controlling the firm's actions.

Maug (1998) concluded that the institutional stockholder's use of their abilities to supervise the management is a function of the amount of their investment. The more the level of institutional ownership, the better the supervision, and this is a direct relation.

2.4. The stock price synchronicity

Roll (1998) used R^2 as a common index to evaluate the cost concurrency and as an estimation of the resolution of stock price Jin &Myers (2006) resulted that the higher R^2 is resulted from lack of transparency in information which is made through the managers who make a part of company's cash flow of their own. In this research it is supposed that the powerful supervision of investors along with reducing the access of managers to cash flow will lead to reduce the R^2 concerning the stock cost of a company.

Chen (2007) illustrates that access restrictions of the managers to the cash flow is tightly dependent on the supervision made by investors and under strong supervising conditions of investors the managers will have to reduce their access which contribute to decrease the specific risk related to that company and therefore the reduction in R^2 .Due to the manager's access to

cash flow R^2 rises. Hence it is expected that there is a negative relation between R^2 and the severity of the investor's supervision.

Lee & Lio (2007) implemented that the price synchronicity is suitable for cost volatility checking. They mention that the cost volatility could be analyzed as in two parts called disorder and informational. They mostly divide the informational part into an updating system of information and instability analysis part that the disorder will lead to a reduction in capability of price information while this capability has a U-shaped relation with informational part.

Dornef et al. (2003) showed that the companies with lower price synchronicity tend more to use the foreign financial resources and assign these resources with more efficiency. They interpret that in a company having more business volatilities, the conscious judgments focuses the way that the stock cost is more close to economical foundations and this trait will decrease the problems resulted from information asymmetry and the mentioned asymmetry will prevent the foreign investments and hence making correct decisions for assigning the resources.

Haggard et al. (2008) have found that the companies with higher score in quality disclosure have more price synchronization. This research supports the cost synchronicity as the evaluation of the relative amount of information specified to the company reflected in the price.

Ahmadpoor & Peikarnegar (2011) have studied the relation between quality disclosure and cost synchronicity in which the concluding findings show the reverse relation between the quality of committed items and price synchronicity, which means the more the estimated error of the committed items (the less the committed quality), the more the price synchronicity.

3. HISTORY

Gaspar et al (2010) have reviewed the relation between informational role of the institutional investors and their investment horizon in which the results show that the presence of the transient institutional investors because of their low motivations for supervision has led to disorganized transactions from managers with the cost of investors. Therefore the amount of the investor's supervision has a direct link with their investment horizon.

Yan & Zhang (2009), Baik et al. (2010) by reviewing the relation between institutional ownership and expected output from the stock realize that the only thing which leads to more output is the presence of transient and local institutional investors.

Bushee & Goodman (2007) have considered the informational role of institutional investors and got to the conclusion that conscious and well-informed business are not a common trend between all these investors and the level of their access to confidential information has a direct relation with the amount of stock they own.

Chen et al. (2007) have studied the informational and monitoring role of long-term institutional investors who have great stock in the ownership structure of the company and the results showed that these investors are actively supervising the decisions about the company's purchases and they never pay their confidential information for short-term transactions.

Jin & Myers (2006) have viewed the relation between the information transparency and R^2 . Their findings showed that there is a positive relation between the lack of financial information

The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

transparency and R^2 in the way that both the lack of transparency of information and the weak support from investors has increased the possibility of attracting the cash flow by managers and as a result to increase the specific variance of the company which eventually has contributed to a high R^2 .

Gaspar et al. (2005) showed that the supervision of investors is dependent on their investment horizon and the weak supervision of transient investors make the opportunity for managers to benefit from the resources of the company in account of their stockholders.

Almazan et al. (2005) has studied the relation between active institutional stockholders and the cost controls. They have assumed that institutional stockholders have a major role in management control but this effectiveness is not the same in all institutional stockholders. The results showed that the stockholders who do not have business relation with the company in the ownership of the companies have the major role in organizing and controlling the manager's activities.

Graves (2005) mentions that repetitive transaction and concentrating on short-term interest by stockholders will motivate the managers to prevent the failure in getting the profit. Because it may lead the stockholders to sell their stock and make a temporary reduction in the value of the stock. Indeed, as it can be seen the attitude of the short term stockholders is that for the stockholders to be temporary will lead the portfolio managers to get encouraged to show the interest more than its real amount. In the other words excessive concentration on current proceeds made by this group of institutional stockholders can lead to diverse stimuli for managers to manage the growing interest earned due to the increase in current proceeds.

Sharma (2004) has reviewed the relationship between independent managers of the board of directors, institutional investors and the probability of fraud in Australia. The results showed that the companies in which they had no fraud in comparison with the companies which had it there is a meaningful difference in the ownership percentage of institutional investors as in the companies with no fraud there was a huge percentage of these investors. This shows that the stockholders who have great ownership in the companies have an effective supervision on managers and therefore they decrease the probability of fraud or reduction of the profit.

Gompers & Metrick (2001) through considering the informational and monitoring role of the stockholders have found an increase in outcome due to the presence of these investors.

Bushee (2001) in a study has reviewed the connection between transient stockholders with current and long-term proceeds. The results showed that transient stockholders are so eager to current proceeds rather than long-term ones and there is a positive and significant relation between the levels concerning short term stockholders and current proceeds.

Morck et al. (2000) by considering the high R^2 of the market model and other price synchronicity standards in developing countries have resulted that the amount of support from ownership rights of the investors has a negative relation with R^2 .

Maug, Kahn & Winton (1998), have studied the relation between the stocks' amount of the owners and the intensity of their supervision and the results showed that there is a positive

relation between the amount of stocks, the quality of supervision and the motivation of stockholders on the behavior of managers.

Bushee (1998) has reviewed the relation between institutional ownership and the amount of manager's extraction to the cash flow and realized that the presence of the long-term investors has a negative relation with the extraction and as a result R^2 , and this relation is reverse for the short term stockholders.

Ahmadpoor & peykarnegar (2011) have studied the relation between earning quality and price synchronicity in the companies accepted in Tehran's exchange market. The results show that the quality of earning in such companies has both significant and reverse relation with the price synchronicity.

Kashani poor, Ahamadi poor & Bagheri poor (2010) have studied the relation between the short term and long term institutional investors with managing the growing interest of the companies in Tehran's exchange market. The results showed that there is a significant and positive relation between short-term institutional investment and managing the growing interest of the companies and this relation is negative and significant for long-term institutional investment.

Modares et al. (2009) have reviewed the effect of institutional stockholders on the stockholders of the companies accepted by exchange market of Tehran. The results showed that although the institutional ownership in the accepted companies is so high, there is no relation between institutional stockholders and the output.

Vakilifard and Bavand poor (2009) have studied the effect of corporate governance on the operation of accepted companies in exchange market of Tehran and the results showed that there is a direct relation between the existence of institutional stockholders and companies' operation.

Namazi, Hallaj and Ebrahimi (2008) have review the relation between institutional ownership and the current and future financial operation in the exchange market of Tehran, the results show that between institutional ownership and the operation of the company there is a direct and significant relation.

Hassas Yegane & moradi (2004) have considered the relation between institutional investors and the value of the company. According to the result of their research there is a positive relation between the institutional investment and the value of the company.

4. METHODOLOGY

In researches which the relation between two or more factors are measured the correlation research is used, and since in this research the aim is to study the relation between dependent and independent variables so this method has been used.

The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

After choosing the sample, by considering dedicated and transient investors as independent variables and dependent variable of price synchronicity we examined the hypothesis by using the multi variable regression , determination coefficient R2 and also E-views 8 software.

4.1 statistical communities

The population has been chosen among the companies accepted in exchange market of Tehran. In this research the screening method has been used to choose the sample in the way that the researchers make the qualifications and if any of the population members is not qualified is omitted and therefore the rest will make the sample of the research, the qualifications are as follows:

1. It shouldn't be unproductive companies .Due to the different operation of the productive firms, the insurance, holdings, finance companies ,banks, etc are omitted.
2. The financial report of the companies must end in 19/03/20**
3. There should be no change in the research period (2004-2011)
4. They shouldn't have transaction delay more than 2 months
5. The information must be comprehensive and accessible
6. Companies with institutional stockholders in their ownership structure
7. They should be the member of the exchange market of Tehran in the period between 2002- 2011

And finally through these qualifications 70 companies were qualified.

4.2 How to measure the stock price synchronicity (SYNCH)

The following equation is estimated annually for a 52-week period for each company.

$$R_{i,w} = \alpha_i + \beta_i R_{m,w} + \gamma_i R_{k,w} + \varepsilon_{i,w} \quad (1)$$

$R_{i,w}$: return of firm i in week w

$R_{m,w}$: market return in week w

$R_{k,w}$: return of firm i in industry k in week w

Using the above pattern the determination coefficient for each company is achieved in each year and for measuring the price synchronicity we use Piotroski and Roulstone (2004) Model:

$$SYNCH = \log \left(\frac{R^2}{1-R^2} \right) \quad (2)$$

R^2 in the above equation is the determination coefficient resulted from the changes of two factors , weekly outcome of the both market and industry in a fiscal year and its effect on weekly outcome of the company's stock and acts as a scale to evaluate the stock price synchronicity. The high amount of SYNCH shows the more stock price synchronicity.

5. HYPOTHESIS

Based on the subject and the above issue implemented, the hypothesis is as follows:

Hypothesis 1: There is a negative relation between the structure of dedicated institutional ownership and the stock price synchronicity.

$$SYNCH = \alpha_t + \eta_i + \beta_1 \cdot IO_DED_{i,t-1} + \beta_2 \cdot ROE_{i,t} + \beta_3 \cdot MTB_{i,t-1} + \beta_4 \cdot SIZE_{i,t-1} + \beta_5 \cdot LEV_{i,t-1} + \beta_6 \cdot SKEW_{i,t} + \beta_7 \cdot KURT_{i,t} + \beta_8 \cdot VOL_{i,t} + \varepsilon_{i,t}.$$

Hypothesis 2: there is a positive relation between the structure of transient institutional ownership and the stock price synchronicity.

$$SYNCH = \alpha_t + \eta_i + \beta_1 \cdot IO_TRA_{i,t-1} + \beta_2 \cdot ROE_{i,t} + \beta_3 \cdot MTB_{i,t-1} + \beta_4 \cdot SIZE_{i,t-1} + \beta_5 \cdot LEV_{i,t-1} + \beta_6 \cdot SKEW_{i,t} + \beta_7 \cdot KURT_{i,t} + \beta_8 \cdot VOL_{i,t} + \varepsilon_{i,t}.$$

In the above relations:

-IO-DED: the ratio of dedicated institutional stockholders out of all institutional stockholders

- IO-TRA: the ratio of transient institutional stockholders out of all institutional stockholders

- ROE: return of equity

-MTB: The ratio of market value to book value

-SIZE: The natural logarithm of the market value of the Company's shares (the Company size)

-LEV: Debt divided by the book value of assets

-SKEW: Skewness of the firm specific weekly return¹ during the fiscal year

-KURT: Kurtosis of the firm specific weekly return during the fiscal year

-VOL: Standard deviation of the industry weekly returns during the fiscal year

6. STATISTICAL ANALYSIS AND HYPOTHESIS TESTING

6.1. Testing the hypothesis

Table 1. Summary statics.

Max	Min	Skewness	Kurtosis	Std Dev	Median	Mean	number	variable
0.995	0.012	-0.673	-0.604	0.263	0.682	0.626	560	IO
0.925	0.000	0.855	0.096	0.200	0.192	0.236	560	IOTRA
0.995	0.000	0.377	-0.673	0.263	0.386	0.390	560	IODED
13.472	10.373	0.558	-0.077	0.605	11.625	11.713	560	SIZE
1.159	0.157	-0.250	0.261	0.153	0.672	0.665	560	LEV
61.772	-145.5	-4.547	96.47	10.011	2.430	3.972	560	MTB
15/016	0/068	2/765	9/332	2/195	1/127	1/933	560	VOL
28/293	-4/625	16/079	334/588	1/340	0/366	0/459	560	ROE
2/724	-4/236	-0/901	3/240	0/798	-0/395	-0/470	560	SKEW
5/273	-1/422	0/965	0/397	1/377	0/255	0/651	560	KURT
1.479	-4.011	0.013	-0.240	1.095	-1.387	-1.395	560	SYNCH

For all variables 560 observations were considered in 8 years by summary statics. Based on the result from table 1 the ratio of the ownership of institutional investors with the average of 0.626 shows that the most of the companies present in the studied sample have more than half

¹ Natural logarithm of 1 plus residuals of Eq.(1)

The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

of their ownership with the institutional investors and in between the average ratio of dedicated institutional investors (0.39) is more than transient institutional investors (0.236).

6.2. Testing the hypothesis

Table 2. Hypothesis testing result.

Hypothesis 1:Relation IO-TRA&SYNCH					Hypothesis 1:Relation IO-DED&SYNCH				
prob	statistic	std dev	estimation	variable	prob	statistic	std dev	estimation	variable
0.807	0.243	2.790	0.679	C	0.449	0.756	2.868	2.169	C
0.0004	3.570	0.343	1.227	IO-TRA	0.003	-2.967	0.326	-0.967	IO-DED
0.758	0.308	0.078	0.024	ROE	0.647	0.457	0.079	0.0362	ROE
0.432	0.785	0.005	0.004	MTB	0.306	1.023	0.005	0.005	MTB
0.358	-0.918	0.236	-0.217	SIZE	0.230	-1.201	0.240	-0.289	SIZE
0.473	0.717	0.417	0.299	LEV	0.456	0.745	0.419	0.312	LEV
0.138	-1.483	0.079	-0.118	SKEW	0.195	-1.297	0.079	-0.103	SKEW
0.711	0.369	0.046	0.017	KURT	0.627	0.485	0.046	0.022	KURT
0.538	-0.616	0.023	-0.014	VOL	0.559	-0.584	0.023	-0.013	VOL
Amount			Amount		Amount			Amount	
2.398	Durbin-Watson	0.529	Correlation coefficient		2.391	Durbin-Watson	0.535	Correlation coefficient	
2.436	F-static	0.280	R ²		2.505	F-static	0.286	R ²	
0.000	Prob	0.165	adjusted R ²		0.000	Prob	0.172	adjusted R ²	

The amount of the determination coefficient of the hypothesis 1 shows that about 28% of the changes in price synchronicity of the stock market is explained through this model. The hypothesis of self-correlation between the data is rejected in condition that the statistics of Durbin-Watson is between 1.5 to 2.5 which for this model is 2.391.

Based on the analysis of the variance, the amount of testing statistics in hypothesis 1 equals 2.505 which is higher than the amount of the tables. The amount of the testing probability in the coefficient table for the variable concerning dedicated institutional ownership is $0.0031 < 0.05$ and The negative coefficient of the dependent variable shows: “There is a negative relation between the structure of dedicated institutional ownership and the stock price synchronicity.”

The amount of the determination coefficient of the hypothesis 1 shows that about 28% of the changes in price synchronicity of the stock market is explained through this model. The hypothesis of self-correlation between the data is rejected in condition that the statistics of Durbin-Watson is between 1.5 to 2.5 which for this model is 2.398.

The amount of testing statistics in hypothesis 2 equals 2.43 which is higher than the amount of the tables. The amount of the testing probability in the coefficient table for the variable concerning transient institutional ownership is $0.0004 < 0.05$ and The positive coefficient of the dependent variable shows: "There is a positive relation between the structure of transient institutional ownership and the stock price synchronicity."

7. CONCLUSIONS

1. The results of the first hypothesis showed that there is a negative relation between dedicated institutional ownership with the stock price synchronicity. In fact since the great amount of the stock and the long investment horizon of dedicated institutional investors guide them to a great supervision on manager's operation, so this leads to decrease the manager's access to the cash flow and therefore decreases the R^2 and ends to the less stock price synchronicity. In conclusion the first hypothesis is accepted.

2. The results of the hypothesis 2 showed that there is a positive relation between the transient institutional ownership and the stock price synchronicity. The transient investors are mostly temporary investors who care more about the current interest rather than the long-term interest. As a result their short term investment horizon and weak supervision causes the easier access of the managers to the cash flow and increases R^2 and finally ends to a higher stock price synchronicity. Therefore the second hypothesis is also accepted.

REFERENCES

- [1] An, H., Zhang, T., 2013. "Stock price synchronicity, crash risk, and institutional investors". *J. Corporate Finance*. 21, pp.1-15
- [2] Maug, E., 1998. "Large shareholders as monitors: is there a tradeoff between liquidity and control?" *J. Finance* 53, pp.65-98.
- [3] Kahn, C., Winton, A., 1998. Ownership structure, speculation, and shareholder intervention. *J. Finance* 53, pp.99-129.
- [4] Chen, Q., Goldstein, I., Wei, J., 2007a. "Price informativeness and investment sensitivity to stock price". *Rev. Financ. Stud.* 20, pp. 619-650.
- [5] Bushee, B., 1998. "The influence of institutional investors on myopic R&D investment behavior". *Account. Rev.* 73, pp.305-333.
- [6] Gaspar, J.M., Massa, M., Matos, P., 2005. "Shareholder investment horizons and the market for corporate control. " *J. Financ. Econ.* 76, pp.135-165.
- [7] Roll, R., 1988. R^2 . *J. Finance* 43, pp. 541-566.
- [8] Jin, L., Myers, S.C., 2006. R^2 around the world: new theory and new tests. *J. Financ. Econ.* 79, pp.257-292.
- [9] Chen, X., Harford, J., Li, K., 2007b. "Monitoring: which institutions matter? *J. Financ. Econ.* 86, pp.279-305.

The relation between institutional investors (Dedicated and Transient) and stock price synchronicity in Iran stock market.

- [10] Ahmad poor.A & Peilar negar ghale rudkhani .S (2012), "specifying the relation between the components of the quality of committed items and cost synchronization in exchange market of Tehran", seasonal magazine of exchange market, no.16, pp. 137-151,(in Persian)
- [11] Yan, X.S., Zhang, Z., 2009. "Institutional investors and equity returns: are short-term institutions better informed?" *Rev. Financ. Stud.* 22, pp.893–924.
- [12] Baik, B., Kang, J.-K., Kim, J.-M., 2010. "Local institutional investors, information asymmetries, and equity returns." *J. Financ. Econ.* 97, pp.81–106.
- [13] Bushee, B.J., Goodman, T.H., 2007. "Which institutional investors trade based on private information about earnings and returns?" *J. Account. Res.* 45, pp.289–321.
- [14] Morck, R., Yeung,B., Yu ,W., 2000. "The Information Content of Stock Markets: Why Do Emerging Markets have Synchronous Stock Price Movements?" *J.Financial Economics* . 58 (1–2), pp.215–60.
- [15] Morck, R., Yeung, B., Yu, W., 2000. "The information content of stock markets: why do emerging markets have synchronous stock price movement?" *J. Financ. Econ.* 58, pp. 215–260.
- [16] Haggard, K.S., Martin, X., Pereira, R., 2008." Does voluntary disclosure improve stock price informativeness?" *Financ. Manag.* 37,pp. 747–768.
- [17] Ahmad poor.A & Peilar negar ghale rudkhani .S (2012), "the study of the relation between the interest quality and cost synchronization of companies accepted in exchange market of Tehran", seasonal magazine of exchange market, no.16 ,(in Persian)