# The Relationship Between Information Asymmetry, Disclosure and Cost of Equity Capital in Companies Listed in Tehran Stock Exchange 

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#### Abstract

The aim of this study is to examine the impact of information asymmetry between the cost of capital in 94 active and passive companies listed in Tehran exchange from 2006-2013. Results show that there is a significant relationship between active investors and information asymmetry as well as between active investors and capital costs in companies listed in Tehran Stock Exchange. Also, there is a significant relationship between passiveinvestors and lack of information asymmetry as well as between passiveinvestors and the cost of capital in companies listed on Tehran Stock Exchange.


Key words: Information asymmetry, disclosure, cost of capital, active and passive shareholders, Iran

## INTRODUCTION

The efficiency of the market is one of the important points on the stock exchange that all information available in market reflects its effect on stock prices on its basis. The reason behind the presence of accounting probably is information asymmetry from the perspective of efficient market hypothesis in which one of the exchange parties possess more information than the other party. This is due to intra-group transactions and information. To determine and create optimal capital structure and or move toward it can affect corporate value and shareholder wealth. The company cannot decide on the tool to collect funds for long-term investments without knowing the cost of capital andeconomic units should select a combination of financial resources with the minimum cost of capital due to limitations on resources (Vakilifard and Wahab, 2010).

Investors base their decisions on the distinction between risk and return. They estimate risk and return for future investors based on data reported by the company and other evidence. The amount of uncertainty in estimating of expected returns is reduced whatever the higher quality information provided and thus information risk decreases.

Information must be such as to effectively evaluate the former performance and profitability of the possible expected measurement on future activities to reported earnings is able to allow users to evaluate the performance and the profitability of the company, based on their expected efficiency gains estimated.

The amount of information available is less transparent in case of the increase in recurring financial reports as long as this information could be influenced by other authorities. So, this may change some invisible characteristics of commercial establishments such as risk, the repeated reports and financial information asymmetry and this is raising fears of institutions.

This study explores the impact of information asymmetry on cost of capital amongactive and passive shareholders' in stock exchange, given the importance and role of investors in the corporation contestant survival and the impact of information asymmetry.

Theoretical backgrounds: Currently, investment is among themost important factors determining the economic fate of the country. Capital markets have the duty of optimal allocation of capital in line with other markets such as money, labor and product market. Information plays a crucial role in the functioning of the capital market in order to guide capital allocation decisions for most decisions, including investment decisions are taken in a state of uncertainty (Bulow, 2007). Optimal capital allocation occurs when market participants own reliable, impartial and fair information in regard to commercial effects of trading. Information users seek increased reliability and reduced risk. Buta lot of information does not lead to increased reliability but that transparency of information reduces uncertainty (Chi et al., 2009).

Access to transparent information is among people's basic rights in democratic societies. Transparency and appropriate disclosure that reduces

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information asymmetry is as an integral part of corporate governance. According to the research, companies that have more transparency are evaluated more intense than other companies in the market. Usually when new information of companies is released in the market, this information is used by analysts, investors and other users and they decide to buy or sell stocks based on it. Thus, investors react differently in the case of confidential and uneven information release, due to information asymmetry in the capital market that will be in line with the misleading and false analysis of the current market situation. In this case, small investors will be reluctant to invest and this ultimately leads to an increase in the cost of capital to risk that must be tolerated by investors (Lambert et al., 2007).

On the other hand, cost of capital is one of the most important and fundamental toolsin many financial and management decisions thatare influenced by several factors.

The cost of capital concept rests on the assumption that a firm's is to maximize shareholder wealth. This will cause application of other concepts out of cost of capital andeach of the interest groups desire a measure of the rate of return on that are suitable to risk. Cost of capital is the minimum rate of return that the company has acquired to provide investment returns in the company desired by investors.

Hara and Oldfield (1986) argue that information asymmetry impact on prices and is as an indicator of corporate cost of capital. They argue that information asymmetry amongtrader's leads to the maintenance of diverse portfolios. Therefore, traders with little information will try to hold assets that can compensate for the weakness of disparate data. This decreases price and liquidity of securities with information asymmetry and increases cost in the buying and selling.

Investors demand more compensation for the added transaction costs paid, thus the company costs ofcapital increases. Companies will be able to reduce the information asymmetry and securities trading costs and thus cost of capital by reducing the information asymmetry by disclosing private information and improve the quality of disclosure. According to studies, still the consequences of information asymmetry in capital markets and especially its relationship with the accuracy of information provided to shareholders and cost of capital is controversial. Thus, the current study aims to study information asymmetry impact among investors on the cost of capital in companies listed in Tehran Stock Exchange.

## Research hypothesis:

- There is a significant relationship between active investors and information asymmetry in companies listed in Tehran Stock Exchange
- There is a significant relationship between active investors and cost of capital in companies listed in Tehran Stock Exchange
- There is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange
- There is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange


## MATERIALS AND METHODS

This study uses regression analysis to examine the relationship between variables. Also, Basu (1997)'s model and Ball and Shivakumar (2005) were used to measure information asymmetry in passive institutional investors and active institutional investors.

Basu (1997) using the following model found that dividend asymmetry in good news and bad news reflection leads to different degrees of stability.

## In this model:

- NI: Net earnings before unusual items divided by equity market value
- RET: Annual stock returns of companies
- DR: Virtual variable equal to one for companies with $\mathrm{RET}<0$ otherwise zero

In this model, positive returnrepresents good news and negative returns represent bad news if the stock return is positive, it will be obtained by $\mathrm{NI}=\alpha+\beta 2$ RET $+\varepsilon$ where $\beta 2$ represents the sensitivity of earnings response to the good news. If stock returnis negative, it will be obtained by $\mathrm{NI}=\alpha+\beta 1+(\beta 2+\beta 3) \mathrm{RET}+\varepsilon$ where $\beta 2+\beta$ represents the sensitivity of earnings response to the bad news. In other words, $\beta 2<\beta 2+\beta 3$ and thus $\beta 3>0$ and $\beta 3$ is called the coefficient of earning asymmetry time that represents conservatism.

The above mentioned variables are added to the model in order to evaluate the effect of institutional ownership and its variants (active and passive) on conservatism:

## Basu model-institutional ownership:

$$
\begin{align*}
\mathrm{NI}= & \alpha+\beta 1 \mathrm{DR}+\beta 2 \mathrm{RET}+\beta 3 \mathrm{RET} \times \mathrm{DR}+ \\
& \beta 4 \mathrm{INST}+\beta 5 \mathrm{INST} \times \mathrm{DR}+\beta 6 \mathrm{INST} \times  \tag{1}\\
& \mathrm{RET}+\beta 7 \mathrm{INST} \times \mathrm{RET} \times \mathrm{DR}+\varepsilon
\end{align*}
$$

Positive (negative) and the significance of $\beta 7$ indicate that information asymmetry in earning report is more (less) by increasing institutional ownership.

## Basu model-type of institutional ownership (active and passive):

$$
\begin{align*}
\mathrm{NI}= & \alpha+\beta 1 \mathrm{DR}+\beta 2 \mathrm{RET}+\beta 3 \mathrm{RET} \times \mathrm{DR}+ \\
& \beta 4 \mathrm{ACINST}+\beta 5 \mathrm{ACINST} \times \mathrm{DR}+\beta 6 \mathrm{ACINST} \times \\
& \mathrm{RET}+\beta 7 \mathrm{ACINST} \times \mathrm{RET} \times \mathrm{DR}+\beta 8 \mathrm{INACINST}+ \\
& \beta 9 \mathrm{INACINST} \times \mathrm{DR}+\beta 10 \mathrm{INACINST} \times \mathrm{RET}+ \\
& \beta 11 \mathrm{INACINST} \times \mathrm{RET} \times \mathrm{DR}+\varepsilon \tag{2}
\end{align*}
$$

Where:
INST = Ratio of common stock held by institutional investors
ACINST = Ratio of common stock held by institutional active investors (institutional investors with representative on the board of directors)
INACINST = Ratio of common stock held by institutional passive investors (institutional investors without representative on the board of directors) positive (negative) and the significance of $\beta 7$ indicate that increasing active institutional ownership, conservatism increase (decrease) in earning reports. Positive (negative) and the significance of $\beta 11$ indicate that increasing passive institutional ownership, conservatism increase (decrease) in earning reports

## Variables:

- ACC: total accruals equal to net earnings plus depreciation minus operating cash flow
- CFO: operating cash flow changes
- DC: dummy variable equal to one if negative CFO otherwise is zero
- DCFO: equal to one if the company's operating cash flow is negative, otherwise is zero
- INST: ratio of common stock held by institutional investors
- ACINST: ratio of common stock held by institutional active investors (institutional investors with representative on the board of directors)
- INACINST: ratio of common stock held by institutional passive investors (institutional investors without representative on the board of directors)

Independent variables: Information asymmetry is the independent variable. Venkatesh and Chiang (1986) model was used to calculate the information asymmetry:

$$
\operatorname{SPREAD}=\frac{1}{\mathrm{D}} \sum \frac{(\mathrm{AP}-\mathrm{BP})}{\frac{\mathrm{AP}+\mathrm{BP}}{\mathrm{Z}}}
$$

Where:
SPREAD = Difference between bought and sold shares bid
D
$=$ Number of trading days during the year
AP (ASK PRICE $)=$ Average daily stock best bids sales in the studied period
$\mathrm{BD}(\mathrm{BID}$ PRICE $)=$ Average daily stock best purchase offer price in the studied period

Difference between bought and sold shares bid is calculated as the such that first the daily data concerning the shares sell bid for each sample companies, over the years is extracted and then the days of the year meeting the following criteria are determined: (highest purchase bid), best shares purchase bid) lowest sell bid) and (best sell bid).

Dependent variable: Cost of capital is the dependent variable in this study and is calculate using Gordon model (Saghafi and Bulow, 2009). The model assumptions are:

- Retained earningsare the only source of financing. That's why Gordon assumes dividend and investment decisions as that of Walter model
- The rate of return on investment remains constant
- The growth rate is a function ofretained earningsand return rate. This assumption is related to the first two assumptions
- Cost of capital is fixed for companies but larger than the growth rate
- The company has an unlimited life
- There is no income tax

Gordon first suggested the following model forstock valuation but later revised it for risk as:

$$
P_{0}=\frac{E_{0}(1-b)}{k-b r}
$$

Where:
$\mathrm{P}_{0}=$ Price per share at the beginning of year zero
$\mathrm{E}_{0}=$ Earnings per share at the end of year zero
$B=$ Retained earnings
$\mathrm{k}=$ Rate of return expectations of shareholders, r return on investment
$\mathrm{br}=$ Growth rate earnings per share and dividends
It must be said about the Gordon model:

- The rate of return is equal to the discount rate ( $\mathrm{r}>\mathrm{k}$ ) so when dividend payout ratio ( $\mathrm{D} / \mathrm{E}$ ) decreases, the price per share increases anddividend payout ratio is not affected
- The rate of return is less than discount rate $(\mathrm{r}<\mathrm{k})$, so when dividend payout ratio ( $\mathrm{D} / \mathrm{E}$ ) increases, the price per share decreases. Accordingly, Gordon model prescribes application of policies similar to Walter version with other logic
- The optimum dividend payment for a growing company $(\mathrm{r}>\mathrm{k})$ is zero $(\mathrm{D}=0)$
- The dividend payment for a typical company does notaffect stock value
- The optimum dividend payment for a dwindling company ( $\mathrm{r}<\mathrm{k}$ ) is one hundred percent or one ( $\mathrm{b}=1$ )

Gordon later revised hisinitial model by adding risks. So that $R_{i}$, $t$ : Rate of return on equity for the period t . $\mathrm{R}_{\mathrm{m}} \mathrm{t}$ : Market rate of return for the period t . To calculate the beta, the estimated duration and time interval are of particular importance to calculate the efficiency. Previous studies indicate that the optimal period for calculating beta is 1 year.

In this study, the estimated duration index of one year is considered and beta was calculated using daily data.

Basu conservatism model: In the Basu conservatism model, positive returns represent good news and negative returns represent bad news. The model is as the following:

$$
\frac{E_{i, t}}{P_{i, t-1}}=\beta_{0}+\beta_{1} D_{i, t}+\beta_{2} R_{i, t}+\beta_{3} D_{i, t} R_{i, t}+\varepsilon_{i, t}
$$

Where:
$\mathrm{E}_{\mathrm{i}, \mathrm{t}}=$ Accounting earning in the year
$\mathrm{P}_{\mathrm{i}, \mathrm{t}-1}=$ The market value of the company's equity at the end of the year (beginning of the year t)
$D_{i, t-1}=$ The virtual variable that is one in the presence of bad news and zero otherwise
$\mathrm{R}_{\mathrm{i}, \mathrm{t}-1}=$ Stock returns in the year t as the difference between the price per share at the end of the period and the price per share at the beginning of the period plus adjustments associated with stock returns (including dividends, bonus shares, etc.) divided by the price per share in each period

In this model, positive non-zero $\beta 3$ indicates conservatism calculated for each company separately in each year. $(\beta 2+\beta 3)$ is reaction of earningto bad news as $\beta 2+\beta 3>\beta 2$. So, $\beta 3$ is positive and is the earning time asymmetry coefficient which measures income conservatism. The study uses Basu conservatism model to test hypotheses:

$$
\begin{aligned}
& \frac{E_{i, t}}{P_{i, t-1}}=\beta_{o}+\beta_{1} D_{i, t}+\beta_{2} R_{i, t}+\beta_{3} D_{i, t} R_{i, t}+\beta_{4} \operatorname{BIG}_{T}+ \\
& \beta_{5} \operatorname{BIG}_{\mathrm{T}} D_{i, t}+\beta_{6} \operatorname{BIG}_{\mathrm{T}} R_{i, t}+\beta_{7} \operatorname{BIG}_{\mathrm{T}} D_{i, t} R_{i, t}+ \\
& \beta_{8} \operatorname{ACINST}_{\mathrm{T}}+\beta_{9} A C I N S T
\end{aligned}
$$

Where:
$\mathrm{E}_{\mathrm{i}, \mathrm{t}} \quad=$ Accounting earning in the year
$P_{i, t-1} \quad=$ Equity market value at the end of the year (beginning of t )
$\mathrm{R}_{\mathrm{i}, \mathrm{t}} \quad=$ Stock returns in year t
$\mathrm{D} \quad=$ Virtual variableequal to one if a stock return is negative; otherwise is zero
BIG $=$ The percentage of shares owned by the largest shareholder in each company
ACINST $=$ The percentage of shares owned by active institutional investors
INACINST $=$ The percentage of shares owned by passive institutional investors
INDV $=$ The percentage of shares owned by real shareholder
MAN $\quad=$ The percentage of shares owned by members of the board of directors
SIZE
$=$ Natural logarithm of total assets at the end of the fiscal year (control variable)

Changes in the ratio of total debt to total assets ratio (control variable). Positive (negative) and the significance of $\beta_{7}, \beta_{11}, \beta_{15}, \beta_{19}$ and $\beta_{23}$ show the greater (less) conservatism in reported earnings information with institutional ownership increase.

A sample of the population consisted of listed companies in Tehran Stock Exchange during the years 2006-2013 including 94 companies that were selected by systematic elimination. SPSS and Excel were used for calculations and test of the assumptions. The statistical methods were "mixed data". Basu and Shyvakvmar (2005) unit root test, F-test and t-test were used to examine the reliability of test variables.

Normality of the dependent variables: Normal distribution was tested using Kolmogorov-Smirnov test. The results

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Table 1: Normality of the dependent variables test
Kolmogorov-Smirnov test

| Variables | Test statistics | Degree of freedom | Significance |
| :---: | :---: | :---: | :---: |
| E | 0.933 | 624 | 0.200 |
| CSORE | 0.891 | 624 | 0.840 |

Table 2: Basu model hypothesis test statistical analysis results

| Significance F | F-statistic | Durbin-Watson statistic | $\mathrm{R}^{2}$ adjusted |
| :--- | :---: | :---: | :---: |
| 0 | 27.66 | 1.829 | 0.231 |

Table 3: Basu model hypothesis test statistical analysis results

| Variables | $\beta$ standardized | Statisticts | Significance (p-value) | Linearity tests |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Tolerance | Variance inflation factor |
| R | 0.422 | 9.205 | 0.000 | 0.588 | 1.702 |
| INDV*R | 11.655 | 4.601 | 0.000 | 0.884 | 1.197 |
| BIG*R | -11.517 | -4.546 | 0.000 | 0.754 | 1.275 |
| ACINST*DR | 0.119 | 2.741 | 0.005 | 0.653 | 1.531 |
| MAN*DR | 0.091 | 2.136 | 0.033 | 0.687 | 1.455 |
| LEV*DR | -0.139 | -3.874 | 0.000 | 0.955 | 1.047 |
| SIZE | 0.159 | 4.460 | 0.000 | 0.977 | 1.023 |

Table 4: Correlation coefficients and significance level

| Variables | Earning | Return | Investment in fixed assets | Concentration ratio | Competition score | The number of firms in an industry | Market size | Leverage | Market value to book |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I_EARN | 1 |  |  |  |  |  |  |  |  |
| I_RET | 0/44 | 1 |  |  |  |  |  |  |  |
| I_DUM | -0/43 | -0/65 |  |  |  |  |  |  |  |
| DIFF | 0/19 | 0/18 |  |  |  |  |  |  |  |
| MKSIZE | 0/33 | 0/07 |  |  |  |  |  |  |  |
| PPE_ENTCOT | 0/33 | -0/01 | 1 |  |  |  |  |  |  |
| HINDEX | $0 / 23$ | 0/07 | 0/11 | 1 |  |  |  |  |  |
| ICOMP_SCOER | 0/14 | 0/00 | -0/52 | -0/32 | 1 |  |  |  |  |
| N_FIRMS | -0/00 | -0/11 | -0/13 | -0/52 | $0 / 77$ | 1 |  |  |  |
| I_MAK | $0 / 27$ | $0 / 27$ | $0 / 08$ | 0/10 | 0/41 | 0/32 | 1 |  |  |
| I_LEV | 0/15 | -0/060 | 0/56 | -0/00 | -0/19 | 0/07 | -0/00 | 1 |  |
| I_MTB | 0/13 | 0/36 | -0/02 | -0/06 | -0/06 | -0/04 | 0/26 | 0/00 | 1 |

**Significant at $1 \%$; Significant at $5 \%$
are shown in Table 1. The null hypothesis is rejected at the $95 \%$ level of confidence if the significance level is $<5 \%$.

According to the significant level achieved assumption of normality of the dependent variable as one of the underlying regression assumptions is confirmed.

Basu model hypothesistest results: Table 2 shows stepwise regression results after 7 different models fitted. Based on the adjusted coefficient of determination, about $23.1 \%$ change in the dependent variable explained by independent and control variables. Durbin-Watson statistic was used to study autocorrelation in regression. This statistic value is always between 0 and 4 and the accepted threshold of the amount of 2 for this statistic is indicative of absence of autocorrelation that is the idealstate of the regression analysis. The value $<2$ shows positive consecutive correlation and the value $>2$ shows negative
consecutive correlation in the residual. Table 3 shows the Durbin-Watson statistic equal to 0.422 which indicates the lack of correlation between the errors of the regression model.

Correlation coefficient: Table 4 shows the Pearson correlation coefficients among the firm level variables. Table results show a positive significant relationship between companies earning and return, also there is a positive significant correlation between the ratio of sales to operating costs, demand, volume of investments inproperty and equipment, company size and concentration ratio. There is a positive insignificant correlation between the leverage and market value to book value ratio and accounting earning. In the interpretation of a positive relationship between competition and earningit can be wrote that the companies have attracted more competitors. In justifying insignificant we can say that the firm resorts to conservatism and avoid reporting

Table 5: Descriptive statistics

| Variables | Min. | Max. | Average | SD |
| :--- | :---: | :---: | :---: | ---: |
| INST | $0 / 00$ | $0 / 98$ | $0 / 43$ | 29 |
| ACINST | $0 / 00$ | $0 / 95$ | $0 / 29$ | 29 |
| INACINST | $0 / 00$ | $0 / 46$ | $0 / 12$ | $0 / 07$ |
| NI | -073 | $3 / 52$ | $0 / 23$ | $0 / 25$ |
| ACC | $-3 / 42$ | $3 / 23$ | $0 / 02$ | $0 / 32$ |
| RET | $-0 / 48$ | $4 / 78$ | $0 / 38$ | $0 / 73$ |
| DR | $0 / 00$ | $1 / 00$ | $0 / 22$ | $0 / 42$ |
| CFO | $-0 / 35$ | $3 / 99$ | $0 / 19$ | $0 / 30$ |
| DCFO | $0 / 00$ | $1 / 00$ | $0 / 07$ | $0 / 21$ |

more earnings to face increasing competition. Ideally Table shows five dimensions that compete with the competition score (I-COMP_ACINST) in all cases except for substitution, the relationship is significant and 0.14 as expected. Table 3 achieved five dimensions that were significant at 1 and $5 \%$ meaning that chosen dimensions are sufficient to measure the competitiveness.

Table 5 shows that institutional investors own on average $43 \%$ of company's shares and most of them ( $29 \%$ ) are active. While, on average, passive institutional investors constitute a lower percentage of ownership ( $12 \%$ ). Net earnings before extraordinary items in sample companies is on average ( $23 \%$ ) of their market value equity. Also, sample companies operating cash flow is (19\%) of market value of their equity. The sample company's return is $38 \%$ on average.

## RESULTS AND DISCUSSION

According to Pearson correlation coefficients there is apositive significant relationship between accounting returns and market returns and a negative insignificant relationship between accounting returns and negative returns (DUM). This means financial information (earnings) in Iran has an important effect on market prices. In addition financing through debt financing in the year and the year before has no significant impact on the accounting returns. Basuresults are as follows.

The first hypothesis: There is a significant relationship between active investors and information asymmetry in companies listed in Tehran Stock Exchange. Table 6 shows the first model (Basu model without distinction between the types of ownership).

The results have beenevaluated using the two Basu and Wing Shyvakvmar models and the results of each model are as follows: Table 7 shows that about $60 \%$ of dependent variable changes are explained by the independent variables. Also, there is a positive correlation between institutional ownership and conservatism given positive and significant correlation coefficient. The first research hypothesis that there is a significant relationship

Table 6: The results of the first model (Basu model-institutional ownership)

| Equation 1 | $\beta$ | t -values | Sig. |
| :--- | :---: | :---: | ---: |
| Constant | $0 / 25$ | $15 / 52$ | $0 / 00$ |
| RET | $-0 / 03$ | $-1 / 20$ | $0 / 069$ |
| DR | $-0 / 05$ | $-1 / 22$ | $0 / 253$ |
| RET*DR | $-0 / 12$ | $-2 / 25$ | $0 / 020$ |
| INST | $-0 / 06$ | $0 / 37$ | $0 / 528$ |
| INST*RET | $0 / 01$ | $1 / 35$ | $0 / 054$ |
| INST*DR | $0 / 12$ | $2 / 36$ | $0 / 003$ |
| INST*RET*DR $^{2}$ | $0 / 90$ |  |  |
| R $^{2}$ | $60 \%$ |  |  |
| F | $4 / 03$ |  |  |

Table 7: The results of the third model (Wing Shyvakvmar model-institutional ownership)

| Equation 1 | $\beta$ | t -values | Sig. |
| :--- | :---: | :---: | ---: |
| Constant | $0 / 21$ | $14 / 75$ | $0 / 00$ |
| CFO | $-0 / 71$ | $-15 / 20$ | $0 / 00$ |
| DCFO | $-0 / 03$ | $-1 / 17$ | $0 / 210$ |
| CFO*DCFO | $-1 / 09$ | $-2 / 13$ | $0 / 002$ |
| INST | $-0 / 04$ | $2 / 37$ | $0 / 001$ |
| INST*CFO | $0 / 21$ | $1 / 13$ | $0 / 025$ |
| INST* DCFO | $0 / 10$ | $2 / 08$ | $0 / 125$ |
| INST* CFO*DCFO $_{\text {R }^{2}}$ | $2 / 75$ | $2 / 12$ | $0 / 028$ |
| F | $51 \%$ |  |  |

between active investors and information asymmetry in companies listed in Tehran Stock Exchange is confirmed.

The second hypothesis: There is a significant relationship between active investors and cost of capital in companies listed in Tehran Stock Exchange. Table 8 shows the third model (Wing Shyvakvmar model without distinction between the types of ownership). Table 9 shows that about $51 \%$ of dependent variable changes are explained by the independent variables. Also, there is a positive correlation between institutional ownership and conservatism given positive and significant correlation coefficient. Therefore, Wing Shyvakvmar model confirms that there is a significant relationship between active investors and cost of capital in companies listed in Tehran Stock Exchange.

Then, the results are investigated based on active and passive institutional ownership distinctions. Table 9 shows the results of the second model (Basu model-institutional ownership distinction). The results were evaluated using the two Basu and wings Shyvakvmar models as follows.

The third hypothesis: There is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange. Table 8 shows that about $9 \%$ of dependent variable changes are explained by the independent variables. Also, there is a positive correlation between active institutional ownership and conservatism according to positive and significant correlation coefficient. Thus, the third

| Table 8: <br> model-institutional ownership) | The results of <br> mor | (Wing | Shyvakvmar |
| :--- | :---: | :---: | ---: |
| Equation 1 | $\beta$ | t-values | Sig. |
| Constant | $0 / 28$ | $14 / 05$ | $0 / 00$ |
| RET | $-0 / 02$ | $-1 / 23$ | $0 / 124$ |
| DR | $-0 / 07$ | $-2 / 15$ | $0 / 021$ |
| RET*DR | $-0 / 24$ | $-1 / 27$ | $0 / 118$ |
| ACINST | $-0 / 03$ | $-1 / 87$ | $0 / 037$ |
| INACINST | $-0 / 17$ | $-1 / 85$ | $0 / 048$ |
| ACINST*RET | $0 / 01$ | $0 / 43$ | $0 / 518$ |
| ACINST*DR | $0 / 09$ | $1 / 30$ | $0 / 143$ |
| ACINST*RET*DR | $0 / 65$ | $2 / 14$ | $0 / 023$ |
| INACINST*RET | $-0 / 04$ | $-0 / 32$ | $0 / 573$ |
| INACINST*DR | $0 / 11$ | $1 / 62$ | $0 / 523$ |
| INACINST*RET*DR | $1 / 46$ | $2 / 13$ | $0 / 023$ |
| R $^{2}$ | $9 \%$ |  |  |
| F | $3 / 02$ |  |  |

Table 9: The results of the 4th model (Wing Shyvakvmar model with institutional ownership distinction)

| Equation 1 | $\beta$ | t-values | Sig. |
| :--- | ---: | :---: | ---: |
| Constant | $0 / 24$ | $14 / 80$ | $0 / 00$ |
| CFO | $-0 / 97$ | $-14 / 36$ | $0 / 00$ |
| DCFO | $-0 / 06$ | $-1 / 32$ | $0 / 110$ |
| CFO*DCFO | $-1 / 27$ | $-2 / 71$ | $0 / 002$ |
| ACINST | $-0 / 05$ | $-2 / 21$ | $0 / 018$ |
| INACINST | $-0 / 39$ | $-3 / 90$ | $0 / 00$ |
| ACINST*CFO | $0 / 16$ | $1 / 03$ | 0287 |
| ACINST*DCFO | $0 / 07$ | $0 / 39$ | $0 / 601$ |
| ACINST*CFO*DCFO | $1 / 03$ | $0 / 52$ | $0 / 489$ |
| INACINST*CFO | $1 / 29$ | $4 / 08$ | $0 / 00$ |
| INACINST*DCFO | $0 / 46$ | $1 / 60$ | $0 / 078$ |
| INACINST*CFO*DCFO | $9 / 11$ | $2 / 15$ | $0 / 020$ |
| R $^{2}$ | $58 \%$ |  |  |
| F | $63 / 68$ |  |  |

hypothesis that there is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange is confirmed. There is a positive correlation between net earnings and annual stock return of companies with conservatism given positive and significant correlation coefficient. Therefore, the third hypothesis that there is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange is confirmed. The results were evaluated using the two Basu and Wings Shyvakvmar models as follows.

The fourth hypothesis: There is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange. Table 9 shows the results of the third model (Wing Shyvakvmar model with institutional ownership distinction). Table 9 shows that about $58 \%$ of dependent variable changes are explained by the independent variables t . Also, givenstatistic and institutional ownership coefficient, there is no significant relationship between active variable and conservatism.

Thus, according to this model, the hypothesis that there is a significant relationship between passive
investors and information asymmetry in companies listed in Tehran Stock Exchange is rejected. There is a positive correlation between passive institutional ownership and conservatism given positive and significant correlation coefficient. As a result that there is a significant relationship between passive investors and information asymmetry in companies listed in Tehran Stock Exchange is confirmed.

## CONCLUSION

The information asymmetry between active investors using the first model (Basu model without the type of ownership distinction) was examined and the results show that there is a positive relationship between institutional ownership and earning conservatism and thus the first hypothesis is confirmed.

The results are inconsistence with that of Lambert et al. (2007). The results are consistence with that of Vsayny and Hermann also domestic investigation by Ghaemi and Vatanparastx (2005). The relationship between active investors and the cost of capital was evaluated using the third model (Wing Shyvakvmar model without institutional ownership distinction). The results show that there is a positive correlation between institutional ownership coefficients and earning conservatism and thus the first research hypotheses is confirmed.

The results are inconsistent with that consistent with that of armstrong and armstrong also domestic investigation Ghaemi and Vatanparastx (2005). The relationship between passive investors and asymmetry was evaluated using the third model (Wing Shyvakvmar model with institutional ownership distinction). The results indicate that there is a positive relationship between passive institutional ownership, INACINST $\times$ RET $\times \mathrm{DR}$ and earning conservatism and thus the third research hypotheses is confirmed.

When the market is in a state of imperfect competition this is not the case. In other words, there is a positive relationship between information asymmetry and cost of capital. The relationship between passive investors and cost of capital was evaluated using the fourth model (Wing Shyvakvmar model with institutional ownership distinction). The results show that there is a positive correlation between passive institutional ownership coefficients and earning conservatism and thus the fourth research hypotheses is confirmed.

The results are inconsistent with that of consistent with that domestic investigation Ghaemi and Vatanparastx (2005). Information asymmetry and uncertainty in information leads to an increase in the cost of capital.

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