

Investigating the Effect of Information on Conservatism in Financial Statements of Accepted Companies in the Tehran Stocks' Exchange

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Abstract

Information asymmetry is a negative event that gives manager incentives to use his private information to attempt transferring wealth from investors by overstating financial performance and consequently, stock prices during his tenure at the firm. The manipulations generate agency costs. Conservative reporting is a mechanism that reduces the managers' ability to manipulate and overstate financial performance and increase the firm's cash flows and value. So the main purpose of this study is to investigate the level of information asymmetry between investors and its effect on accounting conservatism in the companies listed in the Tehran stock exchange. Conservatism is measured using the Givoly & Hyan model, and the information asymmetry measurement is the PIN score (the probability of an information-based trade). Through doing this research the information related to samples of companies of the stock exchange between 1386-1387 considered. The statistical approach applied in the present research is a correlation analysis with linear regression and also variance analysis test using SPSS software.

The result shows that information asymmetry and changes in information asymmetry are positively related to accounting conservatism.

Keywords: conservatism, information asymmetry, the probability of an information-based trade (PIN).

Introduction

Every economic decision is backed by the information that is collected about the subject. If the information doesn't reflect the reality it will have adverse effect on decision that is made by users. Therefore, the way of accessing to the information and its quality value are so important for making decision (Ghaemi et al, 2005). Difference in accessing to relevant information is called information asymmetry. In other words, information asymmetry occurs when one or more investors possess private information about the firm's value while other uninformed investors only have access to public information (Brown & Hillegeist, 2007). Information asymmetry is a negative phenomenon that usually occurs in the stock exchange and generates the difference between the inherent value and the value estimated by investors and causes investors to make an unsuitable decision (Diamond and Verrecchia, 1991). It has different undesirable consequences such as increasing transaction expense, weakness of market, low liquidity, and it totally decreases the profit of transaction in the stock market. These consequences can be adjusted by setting rules of disclosing financial information for decreasing information asymmetry. This measure can enhance the efficiency of stock market and stock returns.

Negative effect of information asymmetry has created a new concept in the field of accounting information disclosure, which is called conservatism. Conservatism is the most important feature of financial reporting. Wolk et al. has

defined conservatism as follows: slower recognition of interests and fewer evaluations of assets. Technical committee of Iran's auditing organization in Conceptual framework of financial reporting has defined conservatism as one of the quality components of reliable characteristic. Conservatism means to be watchful to the extent that getting estimation in ambiguous condition become possible in a way that gain and property will not be overstated and losses and debt will not be understated (Technical committee of Iran's auditing organization, 2004).

Many researchers believe that conservative reaction holds important information and becomes effective to decrease information asymmetry that exists between producer and users of a financial statement. Because financial statements affect the manager's welfare and therefore, give him incentives to overstate financial statement. Managers are motivated to use their private information to attempt to transfer wealth from investors to themselves. So financial report manipulations generate a dead weight loss and reduce firm's cash flow and its stock price. Moreover, manipulations generate agency costs.

Conservative financial reporting is a governance mechanism that reduces the managers' ability to manipulate and overstate financial performance and increase the firm's cash flows and value (Lafond and Watts, 2008), and it can also solve a lot of problems related to agency costs and information asymmetry.

As Chi and Wang said this investigation is important because the disparate degree of conservatism across the world is dissimilar. The disparate degree of accounting conservatism around the world calls for an investigation into the role of conservatism in different countries.

Now because of conservatism importance and its role in presenting reliable information, investigating its relation with information asymmetry, which is based on Iran data, seems necessary.

2- Literature Review

Three researchers: George Akerlof, Michael Spence and Joseph Stiglitz in the field of information economic generate a theory of information asymmetry in the 1970s. Akerlof showed how informational asymmetries can give rise to adverse selection in the market. Spence demonstrated that informed economic agents in such markets may have incentives to take observable and costly actions credibly to signal their private information to un-informed agents, to improve their market outcome. Stiglitz showed that poorly informed agents can indirectly extract information from those who are better informed, by offering a menu of alternative contracts for a specific transaction, so-called screening through self-selection.

Brown (2007) investigated the relation between disclosure quality and information asymmetry. The results indicate that the negative relation between disclosure quality and information asymmetry is primarily caused by reducing the like hood

that investors discover and trade on private information. Additionally, the negative association between disclosure quality and information asymmetry is stronger in settings characterized by high levels of firm-investor asymmetry.

Lafond and Watts (2008) studied the information role of conservatism. They find out that information asymmetry is significantly positively related to conservatism. Further, changes in information asymmetry between equity investors lead changes in conservatism. Furthermore, they point out information asymmetry decrease the firms expected cash flow and increase required rate of return on stock.

Qiang (2007) investigated The Information Role of Conditional and Unconditional Conservatism. The results indicate that both types of conservatism are negatively associated with lead information asymmetry, suggesting that both can reduce information asymmetry. However, lag information asymmetry is positively associated with conditional conservatism only, indicating that investors demand just conditional conservatism in valuation, not realizing the information role of unconditional conservatism.

Leong, Lepone and Segara (2010) examined the impact of earning announcements on component of bid ask spread. Their finding show that adverse selection cost, induced by information asymmetry, increased in the five to eight days leading up to earning announcement and in two days following, while order processing cost decrease during the

announcement period. Furthermore, the increase in adverse selection cost displayed an inverse relation with the level of trading activity prior earnings announcement.

Wittenberg Moerman (2006) studied the role of information asymmetry and financial reporting quality in debt contracting. The results reveal that the bid-ask spread in secondary loan trading is positively related to firm and loan-specific characteristics associated with a high information asymmetry environment. Furthermore, timely incorporation of economic losses into borrowers' financial statements reduces the bid-ask spread at which their loans are traded. This finding suggests that high quality financial reporting reduces the information costs associated with debt agreements and increases the efficiency of the secondary trade.

Watts and Roychowdhury (2006) investigated the relation between asymmetric timeliness and the market-to-book ratio (MTB) as a conservatism measure in Financial Reporting. They find that the relation between asymmetric timeliness over a period and MTB at the end of the period is positive when asymmetric timeliness is measured cumulatively over long horizons. Their empirical results further suggest that asymmetric timeliness is a better measure of total conservatism at a point in time when it is estimated cumulatively over multiple years preceding that time.

Chi and Wang (2008) study the relation between Information Asymmetry and

Accounting Conservatism but focuses on a country whose institutional backgrounds are different from those of the U.S. Their evidence shows that information asymmetry is not only positively related to accounting conservatism, but also leads to such conservatism. Therefore, they suggest that conservatism should not be excluded from the qualitative characteristics of accounting information.

Ghaemi and Vatanparast (2006) investigated the role of accounting information in decreasing Information Asymmetry in Tehran stock exchange. Results show that there is Information Asymmetry among investors during the period of studying, and it is increased after the period of earning announcement in comparison with the period of before earning announcement. Furthermore, they find out that information asymmetry have an effect on transaction volume and stock price, while before the period of earning announcement the volume of transaction increased and stock price fluctuated.

3- Hypotheses

To achieve research's goal, two hypotheses have been complied:

- 1) There is a positive relation between information asymmetry and conservatism.
- 2) There is a positive relation between changes in information asymmetry and conservatism.

4- Methodology

The hypothesis variables are as follows:

Hypotheses	Independent variable	Dependent variable
1	Information asymmetry	Conservatism
2	Changes in information asymmetry	Conservatism

4-1- Information asymmetry measure

The PIN (probability of an information based trade) was provided by Easley et al. (2001) to measure information asymmetry between investors. As Lofond and Watts said PIN is a function of the abnormal order flow. Private information generates excess buying or excess selling pressure. On a day in which bad private information arrives, there are more sell orders than buy orders, and conversely on a good private information day, there are more buy orders than sell orders. It is a proxy for the degree of information asymmetries. So, firms having higher PIN-score represent higher unconditional probability of information-based trading.

This PIN approximation is easy to implement and is calculated as following:

$$PIN = \frac{E[|B-S|]}{E[B+S]}$$

Where E is an expected operator, B is the number of buyers, and S is the number of sellers for each firm, we first calculate daily PIN first, and then compute their mean on a yearly basis.

4-2- Changes in information asymmetry

To obtain changes in information asymmetry for instance, ΔPIN_{87} we use the following formula:

$$\Delta PIN_{87} = PIN_{87} - PIN_{86}$$

4-3- Conservatism measure

In this study, we use Givoly and Hayn model for measuring conservatism. This model is selected because all necessary information for using this model are easy available in Iran. Furthermore, a lot of foreign research(r)es use this model as a Conservatism measure.

Index of conservatism based Givoly and Hayn model is as follows:

$$Conservatism = \frac{\text{net income} + \text{depreciation cost} - \text{cash flow of operating activity}}{\text{begining of fiscal year total assets}} \times (-1)$$

5- Sample selection

For testing our hypotheses, a sample of companies listed in Tehran stock exchange (TSE) between 2007-2008 was used. We study the companies listed in TSE because of, easy access to the data of these companies. Furthermore, regulation of TSE causes more harmonious financial statement information. The sample selection procedure and its effect on sample size are explained as follows:

First, we identify 430 firm-year observations. Then we lose observation for the following reason(s). (1) 89 companies used non calendar year ended in 29/12 (2) 99 companies left the stock exchange during the period of studying and accepted in TSE after 2006 (3) 93 companies stopped trading more than three month(s) (4) 25 companies were missing data while computing PIN.

The above process generates 124 companies in our statistical society. We identify our sample using Kokran formula as follows:

$$n = \frac{N Z_{\frac{\alpha}{2}}^2 (1-P)P}{\varepsilon^2 (N-1) + Z_{\frac{\alpha}{2}}^2 (1-P)P}$$

Where $P=0.5$, $1-P=0.5$, $z_{\frac{\alpha}{2}} = 1.96$, $N = 124$

$\varepsilon = 0.09$

Ultimately, 60 companies are selected randomly.

5-1- Data collection

For collecting the necessary data related to the financial statement, electronic archival data provided by TSE is used. Moreover, Tadbirpardaz and Rahavardnovin (two Iranian software(s)) are used for acquiring part of data needed. In some cases, we use the manual archive existed in TSE’s library and RDIS.IR site.

6- Empirical finding

6-1- descriptive statistic

Table 1 shows the descriptive statistic for our sample of 60 firm-year observation. The mean, median, Std. deviation, skewness and kurtosis are calculated.

6-2. hypotheses analysis

First, for testing the normality of data, Kolmogorof-Smiernof test is used. H0 and H1 are as follows.

$$\begin{cases} H_0 = \text{data for dependent variable has a normal distribution.} \\ H_1 = \text{data for dependent variable has not a normal distribution.} \end{cases}$$

The results of testing are shown in the table 2.

As shown in the table, the significance level for conservatism, information asymmetry and changes in information asymmetry are 0.947, 0.337 and 0.869 respectively. With regard to the fact that the level of significance is more than 0.05 so, H1 is accepted and data for conservatism, information asymmetry and changes in information asymmetry have a normal distribution.

6-3- Result of testing firs hypothesis

To test the first hypothesis H0 and H1 are as follows.

$$\begin{cases} H_0 : B = 0 \text{ The model is not significant} \\ H_1 : B \neq 0 \text{ The model is significant} \end{cases}$$

The result of regression analyses is shown in table 3.

Table 1

	Number	Mean	Median	Std deviation	Skewness	Kurtosis
Conservatism	60	-0.00716	0.00206	0.1187	-0.204	-0.369
Information asymmetry	60	0.1719	0.15862	0.09999	1.237	2.447
Changes in Information asymmetry	60	-0.0114	-0.01547	0.08446	-0.347	1.076

Table 2

Variables	Number	Significance level
Conservatism	60	0.947
Information asymmetry	60	0.337
Changes in Information asymmetry	60	0.869

Table 3- Model Summary

R	R ²	Adjusted R ²	Std (Error of Estimate)
0.291	0.085	0.069	0.114525

ANOVA

	Sum of squares	df	Mean square	F	Sig.
Regression	0.071	1	0.071	5.384	0.024
Residual	0.761	58	0.013		
Total	0.831	59			

Table 4

	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error			
Constant	-0.067	0.030		-2.525	0.028
Information asymmetry	0.346	0.149	0.291	2.320	0.024

As shown in the table, the significance level of F-statistic is 0.024, and because it is lower than 0.05, so H1 is acceptable and the model in 95% level is significant. Furthermore, adjusted R² is 0.085. It means that 8.5 percent of changes in conservatism are described by information asymmetry. The amount of correlation between information asymmetry and conservatism is equal to 0.291. The way of judging this case is that because this amount is between 0.25 and 0.5, so there is a direct and approximately strong

correlation between information asymmetry and conservatism.

Then the regression coefficient is calculated and the results of that are shown in table 4.

As table 4 shows the significant level is lower than 0.05, so all the coefficients are significant in 95% level. With regard to table the ultimate model is as follows:

$$Y_i = -0.067 + 0.346 X_i$$

6-4- Result of testing second hypothesis

To test the second hypothesis H0 and H1 are as following:

$$\begin{cases} H_0 : B = 0 & \text{The model is not significant} \\ H_1 : B \neq 0 & \text{The model is significant} \end{cases}$$

The result of regression analyses are shown in table 5.

As the table shows the constant amount is a significant amount but significant level of changes in information asymmetry is more than 0.05, so it is not significant, and it is equal to zero. The ultimate model is as follows:

$$Y_i = +0.517 \Delta X_i$$

As shown in the table, the significance level of F-statistic is 0.004, and because it is lower than 0.05, so H1 is accepted and the model is significant in 95% level. The adjusted R2 is equal to 0.135. It means that 13.5 percent of changes in conservatism are appointed by changes in information asymmetry. The correlation coefficient is 0.368 and significant because the amount of significant levels is equal to 0.004, and it is lower than 0.05. This amount is between 0.25 and 0.5 so; there is a direct and fair strong correlation between changes in information asymmetry and conservatism.

The results of the regression coefficients are shown in table 6.

Table 5- Model Summary

	R	R²	Adjusted R²	Std (Error of Estimate)	
	0.368	0.135	0.121	0.111316	
ANOVA					
	Sum of squares	df	Mean square	F	Sig.
Regression	0.113	1	0.113	9.090	0.004
Residual	0.719	58	0.012		
Total	0.831	59			

Table 6

	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error			
Constant	-0.001	0.015		-0.087	0.931
Changes in Information asymmetry	0.517	0.172	0.368	3.015	0.004

7- conclusion and Discussion

In this study, we investigate the relation between information asymmetry and conservatism in the financial statement of the companies listed in Tehran stock exchange.

The study shows that there is a positive relation between information asymmetry and conservatism, the greater information asymmetry between investors in the current period; the more conservative is the financial statement in the current period. So firms with higher information asymmetry have more conservative financial statements. Furthermore, the results show that information asymmetry changes lead conservatism changes. In other words, changes in information asymmetry are simultaneous and in the same direction with conservatism changes. It means that if the information asymmetries increase in comparison with the previous years, we expect that conservatism increases in the current financial statement.

With regard to the result and role of information asymmetry and its effect on conservatism, we suggest some policies to restrict and stop the use of private information in a transaction and decrease information asymmetry. Some policies like full disclosure can be useful for decreasing information asymmetry. Furthermore, in time information can reduce the ability of people who has private information. Finally, we can solve the problem of information asymmetry by better controlling of the market.

We encourage further studies using data from a range of countries to investigate the

relation between information asymmetry and conservatism in special industry. Furthermore, they can study the relation with other measures of conservatism and information asymmetry.

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