

Investigating the Relationship between Information Asymmetry and Long-Term Debt, Market Leverage and Institutional Investors in Companies Listed on the Tehran Stock Exchange

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Abstract

Optimal capital structure and minimizing the cost of financing and, consequently, increasing the value of the stock market has long been an important issue in companies. In this study, the relationship between long-term debt, market leverage and institutional investors with information asymmetry in companies listed on the Tehran Stock Exchange in the period 2015-2020 has been investigated using combined data. For this purpose, 97 companies listed on the Tehran Stock Exchange have been selected as the selected sample. From the relative gap, the stock bid is considered as a measure of information asymmetry. Eviews software has been used to estimate descriptive statistics and parameters of the existing model and statistical analysis and inference. The independent variables of the study are long-term debt, market leverage, institutional investors and the dependent variable of the study is information asymmetry. The findings of this study show that there is a significant relationship between long-term debt, market leverage and institutional shareholders with lack of There is information symmetry in companies listed on the Tehran Stock Exchange. This means that long-term debt, market leverage and institutional shareholders have an adverse and negative effect on information asymmetry.

Keywords: Long-term debt, market leverage, institutional investors and information asymmetry

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Introduction

One of the effective factors in decision making is appropriate information related to the subject of the decision. If the required information is distributed asymmetrically between individuals, it can lead to different results for a single subject. Therefore, before the information itself is important to the decision maker, it is the quality of the information distribution that must be carefully evaluated. Now, if there are investors who are active in the capital markets, there are people who are in a better position than others in terms of information and, for example, are aware of the announcements that are going to be made about profits. To affect market supply and demand and, so to speak, lead to a price gap. The main reason for this is the lack of information asymmetry in the capital market, according to which people who are aware of the announcement of profits (or any other important news) are in a better decision-making position than others. When an asymmetry of information about a company's stock increases, its intrinsic value will differ from the value that investors in the capital market place on the stock in question. As a result, the real value of companies' shares will be different from the value expected by shareholders (Ahmad Pourkasgari, 2010). Whether or not long-term debt, or market leverage, or institutional investors reduce or increase such information asymmetry, we have sought to investigate the relationship between information asymmetry and long-term debt. Be the lever of the market and institutional investors.

State the problem and the importance of the subject

Due to the undeniable role that information plays in the capital market, it is said that the most expensive asset in the stock market is information. In the stock market, if we consider stock information as input, the stock price will be the output or product. Securities prices relate to the information that investors have to make decisions. Explains information, pricing and price change. Informed investors, therefore, formulate and justify their strategies based on the use of new information. Accordingly, those who have access to information more quickly have an advantage, because they can predict the future price of securities, ie the price that is formed after the public release of information, sooner than others (Stock Exchange and Securities Organization, 2007).

The basis for decision-making by participants in the securities markets is information published by stock exchanges, stock exchange issuers and brokers active in these markets. Utilization of this information, in other words, correct decision-making in the stock market is possible when the mentioned information is timely, relevant, important and complete and understandable. On the other hand, the type and manner of access to information is also important. If the transfer of information is uneven and asymmetric, between individuals can

cause different results than a single issue (Khodami Pouroghadiri, 1389).

Among the markets, the market that strongly feels the need for information transparency for the decision-making of individuals and organizations is the capital market. The capital market, as part of the financial markets, plays an important role in the economy. The capital market, along with other financial markets, regulates the flow of financial resources in proportion to the amount of economic activity. It is through such markets that the savings of individuals and organizations in different sectors of the national economy are transferred to companies to invest in industry (Ebrahimi Nejad and Khalifa, 2009).

As information asymmetries increase, it will be difficult for managers to understand the true position of capital, market investors. So in a situation where information asymmetry is high, managers will create conservative estimates of market information. As a result, information asymmetry can potentially lead to large errors or risks. Therefore, the present study seeks to answer the following questions:

Do companies with higher long-term debt have lower levels of information asymmetry?

Do companies with higher market leverage have higher levels of information asymmetry?

Theoretical framework of research

Information asymmetry

It is impossible to imagine complete information in economics. Obviously, different people know different things. This is one of the characteristics of a decentralized market. Information asymmetry refers to a situation in which one of the parties to the exchange has more information than the other party. This happens for a variety of reasons, including the existence of transactions and confidential information. In his book *Financial Accounting Theory*, William Scott defines information asymmetry as the information advantage of some parties to a transaction over others in a business transaction (Scott, 2003).

According to Scott, when one party to the transaction has an information advantage over the other, the economic system is said to be asymmetric from an information point of view. In accounting theory, the issue of information asymmetry is very important because securities markets are exposed to threats due to the issue of information asymmetry, and this is due to the existence of information within the organization. Even if the price fully reflects all the information in the market, it is still possible that people inside the organization have more information than people outside the organization. At this time, these people are taking advantage of having information and gaining more benefits. When foreign investors become aware of this, it is obvious that they will not pay the amounts they were willing to pay for the securities if they had complete information, thus reacting to the potential losses caused by the existence of confidential information. They give (Kasgari and Ajam, 1389).

Institutional investors

Institutional Investors Joint venture companies, limited investment companies, life insurance companies that hold members' savings in the form of portfolios and bonds are all examples of institutional investors. In fact, they refer to investors and shareholders who have goals with a horizon. They are long-term for investment, or in other words, their investment is to create value and have no expectation of short-term profits. According to the definition of Bushi (2001), institutional investors are large investors such as banks, insurance companies, investment companies, etc., whose large volume of operations is related to the trading of their shares. In addition, in accordance with the definition of paragraph 27 of Article 1 of the Securities Law of the Islamic Republic of Iran, from institutional investors, any natural or legal person who buys more than 5% or more than 5 billion rials of the nominal value of securities in circulation. They are part of this group of investors.

Financial Leverage

In calculating the financial leverage, the financial part of the profit and loss statement is considered. The degree of financial leverage indicates the percentage change in earnings per share for one percent change in earnings before interest and taxes. Leverage in taxation is a term used to refer to a method of multiplying profit or loss. More precisely, leverage means borrowing money in order to multiply trading income. The main use of financial leverage is to answer the question of why a small change in earnings before interest and taxes causes a sharp change in earnings per share. The second property of financial leverage is the justification for errors that occur in earnings per share forecasts. A company forecasts a figure for its earnings before interest and taxes and determines earnings per share based on it, then calculates the degree of financial leverage (based on the forecast for earnings before interest and taxes); In this case, to calculate the error in forecasting earnings per share, the degree of financial leverage must be multiplied by the percentage of changes in earnings before interest and taxes.

As a result, high-leverage firms will have fewer growth opportunities than lower-leverage firms. They invest less (Iraj No Rosh et al., 2010).

Long-term debt

Long-term debt includes loans and financial commitments that last more than a year. Long-term debt for a company can include any financial liability or lease that expires after a period of 12 months. Long-term debt can be applicable to governments, in other words, countries can have long-term debt. Long-term debt can also be called long-term debt.

Financial liabilities and leases, called long-term or fixed liabilities, include bonds or corporate bonds or long-term leases that are written to a company's balance sheet. Most of these long-term liabilities are paid over the course of a year, which are classified as current liabilities and recorded in the balance sheet. In a balance sheet, company liabilities are classified as either financial liabilities or operating liabilities. Financial liabilities refer to debts owed to investors or shareholders. These include bonds and stocks. Operating liabilities refer to long-term or unsettled leases that arise to provide facilities and services to the company. These include everything from rented building space and equipment to employee retirement plans.

Bonds are one of the most common types of long-term debt. Companies may distribute bonds for a variety of reasons to increase funding. Selling bonds brings in immediate revenue, but the company eventually has to pay it off.

High debt-to-equity ratios mean that the company invests most of its debt. If the ratio is too high and the company is unable to pay off its debt due to reduced revenue or other problems, the company runs a high risk of bankruptcy. The low debt-to-equity ratio indicates that the company is growing or developing because it does not focus on debt and trying to repay loan installments; But the company must still compare its ratio with the ratio of other companies, because this helps determine the economic leverage.

History of research

Jahankhani and Kanani Amiri (2020) examined the comparison between leverage and capital companies as well as the relationship between capital expenditures and Q coefficient and future stock returns and the relationship between financing type Q and coefficient and future stock returns in these two groups of companies. Summary of their research results showed that the capital expenditures of capital companies are more sensitive to the Q coefficient compared to leverage companies. The results also show that the stock market (stock prices) is related to capital expenditures.

Bakhshayesh in (2020) examined the relationship between information asymmetry and investment-cash flow sensitivity in the Tehran Stock Exchange. The results showed that because with increasing information asymmetry, the cost of foreign financing becomes more expensive than domestic financing, and as a result, companies rely more on domestic cash to finance their investment projects. Investment sensitivity to domestic funds increases. Finds.

Chen et al (2020) showed in a study that two criteria for measuring private information in stock prices, namely price asymmetry and the probability of conscious trading, have a strong positive effect on a firm's investment sensitivity to stock prices. It also showed that company executives learn from private pricing information about their company principles and decision making. Therefore, they say that in order to maximize the value of the company, managers should use more information in their decisions, including information on the stock market, information obtained and information that is not yet reflected in the stock price.

Choi et al. (2020) investigated the effect of state ownership on information asymmetry. They measured information asymmetry by the bid-ask spread in emerging Chinese markets. The results showed that government ownership had significant positive effects on the bid and ask price difference during 1995-2000, and higher government-owned companies tended to have a greater deviation between actual and controlled cash flows. Thus, they argued, the emergence of private oversight shareholders and regulatory changes in the ownership structure would reduce the link between state ownership and information asymmetry.

Ghaemi et al. (2019) investigated the effect of seasonal earnings announcement on market information asymmetry. In this study, the bid-ask price gap as a criterion for not scrutinizing information in the range of 20 days before to 20 days after the announcement and 10 days before to 10 days after the announcement. It was considered based on the regression model. The results of this study show that during the study period, after the announcement of quarterly earnings compared to before their announcement, information asymmetry did not decrease significantly.

Haji Ghadirzadeh et al (2019) in a study investigated the relationship between ownership structure and information asymmetry. The results of their research showed that the percentage of ownership concentration of companies listed on the Tehran Stock Exchange has a significant effect on the degree of information asymmetry. In addition, the percentage of government, management, and organizational ownership have a significant effect on information asymmetry.

Hajiha and Moradian (2019) investigated the effect of information asymmetry on the relationship between company value and investment during the period 1390-1385 with a sample of 99 companies. First, the direct relationship between company value and investment and then the interaction effect of information asymmetry

and company value on investment is investigated. The results of testing the hypotheses and estimating the coefficients using the ordinary least squares regression panel analysis show that information asymmetry reduces the impact of firm value on investment. So in a situation where information asymmetry is high, managers will create conservative estimates of market information. Hence, information asymmetry can potentially lead to large errors or risks.

Magnan et al. (2019) conducted a study on corporate governance and information asymmetry between managers and investors. reduces.

Kong et al. (2019) show that information asymmetry has a significant reduction effect on a firm's investment sensitivity to stock prices. Also, the results of tests on price sensitivity to investment showed that different investment criteria have different effects on price. Coefficients show that under two different types of criteria, information asymmetry has a significant incremental effect on price sensitivity to investment.

Using data from small and medium-sized German companies from 2003 to 2005, Algis et al. (2018) studied the effect of industry characteristics on the capital structure of these companies. The results showed that capital structure decisions in the studied companies are in line with hierarchical theory; Among other things, the companies in question reduce their debt levels as profitability increases, and growing companies borrow to raise the funds they need.

Zhang et al. (2018) in a study examined information asymmetry and capital structure. Given that companies generally have a high leverage ratio with high information asymmetry, their goal was to investigate the impact of information asymmetry on the company's financial decisions. The results showed that information asymmetry affects the firm's leverage, probably due to increased information asymmetry, the cost of capital through the issuance of shares is more than debt.

Gao and Zhou (2016) examine the relationship between information asymmetry, capital structure, and capital expenditure across countries, with a particular focus on how it relates to various aspects of the organizational environment. The results show that companies with high levels of information asymmetry are more likely to use long-term debt capital. This is probably due to the different effects of information asymmetry on the cost of capital. In addition, the positive association between information asymmetry and market leverage is more pronounced in countries with developed banking or bankruptcy codes, and less so in countries with common laws and countries with extensive disclosure practices. Is prominent.

Tofigh Haji (2013) examined the relationship between information asymmetry and dividend policy.. The results showed that there is a significant relationship between information asymmetry and dividend policy of companies listed on the Tehran Stock Exchange and the correlation between them is positive. This means that for every unit of increase in information asymmetry, companies will experience an increase of 0.136 units in their dividend payout ratio. Also, the results show that the variables of investment opportunities and ownership focus have a significant effect on dividend policy, but the effect. The variables of liquidity, stock turnover, company size, trading volume, transaction value and liquidity are not significant on dividend policy.

Research questions

The present study seeks to answer the following questions:

Do companies with higher long-term debt have lower levels of information asymmetry?

Do companies with higher market leverage have higher levels of information asymmetry?

Research Hypotheses

The present study seeks to investigate the relationship between information asymmetry with long-term debt, market leverage and institutional investors in companies listed on the Tehran Stock Exchange. Therefore, in this study, the following three hypotheses are examined:

There is a significant relationship between information asymmetry and long-term corporate debt.

There is a significant relationship between information asymmetry and market leverage of companies.

There is a significant relationship between information asymmetry and institutional investors of companies.

Research methodology

This research is an applied research in terms of purpose and is a post-event correlation in

Terms of methodology.

Statistical population, statistical sample and time domain of the research

The statistical population of this research is all companies listed on the Tehran Stock Exchange in various industries and groups. Information and statistical data related to the companies included in the statistical sample were collected between 2015 and 2020. To select the sample in this study, the screening method was used, so that all member companies are comprehensive. Statistics with the following conditions and criteria will be included in the statistical sample and those companies that do not meet the above conditions will be excluded

from the sample:

- All companies must have the required information in the period 2015 to 2020.
- Companies must all be listed on the stock exchange before 2015 and by the end of 2020, their symbol has not been removed from the stock exchange.
- The financial year of the companies should end at the end of March of each year.
- Not be part of financial companies (investment, holding, intermediation).

By applying the above restrictions, 97 companies in the Tehran Stock Exchange were selected as a sample Has been.

Research variables and how to measure them

Independent research variables are (long-term debt, market leverage, institutional investors) which are calculated according to

The following is:

According to Gao and Zhou (2014) research, we will use the following methods to measure long-term debt and market leverage:

Market leverage: total liabilities divided by total total debt with market value of equity;

Market leverage = Total debt / total debt + total market value of equity

Market leverage

Total debt

total market value of equity

Long term debt = Long term debt / total debt

Long term debt

total debt

Institutional Investors: Institutional investors are considered as an independent variable in this study. According to the definition of paragraph 27 of Article 1 of the Securities Law of the Islamic Republic of Iran, from institutional investors, any natural or legal person who buys more than 5% or more than 5 billion rials of the nominal value of securities in circulation is also included in this They are a group of investors. Therefore, by examining the accompanying notes in the financial statements, the percentage of ownership of these investors from the company's shares has been determined.

Dependent variable (information asymmetry)

In this research, information asymmetry (dependent variable) is calculated using the bid-ask price method or the price gap.

Price gap: This amount is obtained from the difference between the bid and ask prices.

Information asymmetry is a qualitative concept, in order to be able to express it in the form of numbers, we need a model so that we can quantify it. To do this, we use the bid price range of stocks. This model was used by Chiang and Vkintash in 1986 to determine the range of the bid-ask price.

$$SPREAD_{it} = \frac{AP - BP}{(AP + BP)/2} \times 100$$

t = period of time under study

i = Sample under study

SPREAD = Range of the difference between the bid and ask price of the stock

(ASK PRICE) AP = The average bid price of the company i shares in period t

= (BID PRICE) BP

Control variables (return on assets, company size)

Company size: In defining company size, most variables such as total assets, sales or daily value of the company are used to convey the concept that the higher the total assets, sales or daily value of the company, indicates that the size of the company It is bigger. In this research, the natural logarithm of the total book value of total assets is used as a representative of the size of the company.

Size = Logarithm of total assets

Size: The size of the company

Logarithm of total assets: The natural logarithm of the total book value of assets

Return on Assets: Net profit on the book value of total assets is used as an indicator of return on assets.

ROA = Net income / total assets.

ROA: Return on Assets

Net income

total assets: the book value of total assets

Research Findings

Statistical description of research variables

In descriptive statistics, data analysis using central indicators such as mean and median and dispersion indicators; Standard deviation, skewness and elongation have been done. The mean value, which is the main and most used central index, shows the average of the data, and is also listed in Appendix A.

Table (1-1): Descriptive statistics

| Return on assets | size of the company | Institutional investors | Market leverage | Long-term debt | Information asymmetry | Descriptive Statistics |
|------------------|---------------------|-------------------------|-----------------|----------------|-----------------------|------------------------|
| 0.00000054 | 5.610928 | 0.591485 | 0.602117 | 0.00000287 | 5.610928 | Average |
| 0.00000031 | 5.560000 | 0.667900 | 0.623320 | 0.00000231 | 5.560000 | Middle |
| 0.00000671 | 7.640000 | 0.998800 | 0.997236 | 0.00005311 | 7.640000 | maximum |
| 0.00000000 | 3.950000 | 0.000000 | 0.00008427 | 0.00000001 | 3.950000 | minimum |
| 0.000750148 | 0.518026 | 0.297019 | 0.155050 | 0.002099155 | 0.518026 | Standard deviation |
| 3.734621 | 0.703625 | -0.684041 | -0.647490 | 5.695623 | 0.703625 | SKewness |
| 21.48924 | 4.406565 | 2.302633 | 3.622954 | 44.94165 | 4.406565 | Drawing |
| 0.000312 | 3265.560 | 344.2441 | 350.4318 | 0.002122 | 3265.560 | total |
| 582 | 582 | 582 | 582 | 582 | 582 | observations |

The results of the research statistical table for research variables are presented separately for 582 observations. And the middle indicates that 50% of the data is less than the middle number and 50% of the data is more than the middle number of the set. Shows the proximity of the mean and median values of data symmetry and also shows the standard deviation of data scatter. The large value of the mean from the middle indicates the presence of large points in the data, because the mean is affected by these values, and in this case the distribution of data is skewed to the right.

Reliability tests of research variables

Before analyzing the research data, the reliability of the research variables will be examined. The reliability of the research variables means that the mean and variance of the variables over time and the covariance of the variables between different years have been constant. As a result, the use of these variables in the model does not cause false regression. We use unit root tests to evaluate the reliability of variables. For this purpose, Levin, Lane, and Chou were used for the common unit root and Phillips-Prone and Dickey Fuller tests were used cross-sectionally. The test results are as follows, which are also listed in Appendix "B":

Table (2-2): Reliability test of research variables during the research period

| Possibility | Statistics | Type of test | Variable |
|-------------|------------|-------------------------------|-------------------------|
| 0.0000 | | Levin, Lin & Chu Dickey | Information asymmetry |
| 0.0000 | -7732.17 | FullerChow | |
| 0.0000 | 146.755 | Phillips, P.C.B and P. Perron | |
| | 160.694 | | |
| 0.0000 | | Levin, Lin & Chu Dickey | Long-term debt |
| 0.0000 | -18.8699 | FullerChow | |
| 0.0000 | 184.613 | Phillips, P.C.B and P. Perron | |
| | 237.890 | | |
| 0.0000 | | Levin, Lin & Chu Dickey | Market leverage |
| 0.0000 | -36.9925 | FullerChow | |
| 0.0000 | 212.601 | Phillips, P.C.B and P. Perron | |
| | 271.131 | | |
| 0.0000 | | Levin, Lin & Chu Dickey | Institutional investors |
| 0.0005 | -26.0702 | FullerChow | |
| 0.0000 | 120.245 | Phillips, P.C.B and P. Perron | |
| | 161.272 | | |
| 0.0000 | | Levin, Lin & Chu Dickey | size of the company |
| 0.0038 | -13.7542 | FullerChow | |
| 0.0000 | 134.705 | Phillips, P.C.B and P. Perron | |
| | 174.893 | | |

| Possibility | Statistics | Type of test | Variable |
|-------------|------------|-------------------------------|------------------|
| 0.0000 | -16.9147 | Levin, Lin & Chu Dickey | Return on assets |
| 0.0000 | 171.019 | FullerChow | |
| 0.0000 | 213.752 | Phillips, P.C.B and P. Perron | |

As the table above shows, the P-value for all variables is less than 5%. Therefore, all research variables are at a stable level during the study period. Therefore, hypothesis H_0 of this test, which indicates that the variables have a common root root (are anonymous or non-static) is rejected, and hypothesis H_1 is accepted, which indicates that the variables are static.

Test results of hypotheses and models used

| Information asymmetry | | | | Dependent variable |
|---|---------------------------------------|---------------------------|---|-----------------------------------|
| Number of views: 582 | | | | |
| p-value | Statistics t | Standard error | Multiplications | Independent and control variables |
| 0.0059 | 2.766689 | 1.152590 | 3.188857 | Width of origin |
| 0.0032 | -1.736593 | 0.106010 | -0.184096 | Long-term debt |
| 0.0400 | -0.468120 | 0.011143 | -0.115216 | Market leverage |
| 0.5732 | -0.563869 | 0.009358 | -0.005277 | Institutional investors |
| 0.6953 | 0.391962 | 0.038649 | 0.015149 | size of the company |
| 0.8094 | -0.241313 | 0.198595 | -0.047923 | Return on assets |
| Adjusted coefficient of determination 0.649050 | Determination coefficient 0.681784 | Dorbin Watson 2.132881 | F Probability of statistics 0.000000 | Statistics F 13.844929 |

The results of the regression model using the fixed effects model and the generalized least squares method are presented in the table below. The results show that long-term debt, market leverage, institutional investors and return on assets have an inverse effect on information asymmetry, while only the size of the company has a direct effect on information asymmetry. The results of the first model are described in the table below, which is also listed in Appendix C.

Test results of the first main hypothesis and the model used

The first main hypothesis:

According to the first question of the research, we answer the following hypothesis as to whether long-term debt affects the information asymmetry of companies listed on the Tehran Stock Exchange.

$$\text{spread}_{it} = \beta_0 + \beta_1 \text{ldebt}_{it} + \beta_2 \text{size}_{it} + \beta_3 \text{roa}_{it} + \varepsilon_{it}$$

H_0 : Long-term debt does not affect information asymmetry.

H_1 : Long-term debt affects information asymmetry.

Considering that the probability value of t-statistic (significant level) for long-term debt is 0.0059 and is less than 5%, it is statistically significant, so hypothesis H_0 is rejected and hypothesis H_1 is accepted. Becomes.

Test results of the second main hypothesis and the model used

According to the second question of the research, we answer the following hypothesis as to whether the market leverage affects the information asymmetry of companies listed on the Tehran Stock Exchange.

$$\text{spread}_{it} = \beta_0 + \beta_1 \text{mleverage}_{it} + \beta_2 \text{size}_{it} + \beta_3 \text{roa}_{it} + \varepsilon_{it}$$

H_0 : Market leverage does not affect stock information asymmetry.

H_1 : Market leverage affects information asymmetry.

Considering that the probability value of t-statistic (significance level) for market leverage is 0.0032 and is less than 5%, it is statistically significant, so hypothesis H_0 is rejected and hypothesis H_1 is accepted. To be.

Test results of the third main hypothesis and the model used

According to the third question of the research, we answer the following hypothesis as to whether or not institutional investors affect the information asymmetry of companies listed on the Tehran Stock Exchange.

$$\text{spread}_{it} = \beta_0 + \beta_1 \text{io}_{it} + \beta_2 \text{size}_{it} + \beta_3 \text{roa}_{it} + \varepsilon_{it}$$

H_0 : Institutional investors do not affect information asymmetry.

H_1 : Institutional investors affect information asymmetry.

Given that the probability value of t-statistic (significance level) for institutional investors is 0.5732 and is more than 5%, it is not statistically significant, so the hypothesis H_0 can not be rejected.

Conclusion

In this study, the relationship between information asymmetry with long-term debt, market leverage and institutional investors in companies listed on the Tehran Stock Exchange has been investigated. To conduct this research, 97 companies listed on the Tehran Stock Exchange during the period 2020-2020 have been studied. It should be noted that for the mentioned research, regression models of data panel with fixed effects model have been used; We have used F-Limer test and Hausman test to select suitable models.

In answer to the first research question, we examine whether long-term debt affects information asymmetry.

The results show that long-term debt has a negative and significant effect on companies' information asymmetry. This indicates that the more long-term debt companies have, the less information asymmetry they will face, and the 0.184 units decrease in information asymmetry per unit increase in each long-term debt.

In answer to the second research question, we examine whether the market leverage affects information asymmetry.

The results show that market leverage has a negative and significant effect on companies' information asymmetry. This indicates that the more leverage companies have, the less information asymmetry they will face, and the 0.115 units decrease in information asymmetry per unit increase in market leverage. In answer to the third research question, we examine whether institutional investors are affected by information asymmetry.

The results show that institutional investors have an inverse effect on information asymmetry, but because the level of significance of the institutional investors variable is more than 5%, this effect is statistically insignificant.

Also, regarding the results of control variables, the results were as follows

The positive effect of company size on information asymmetry is not statistically significant.

The negative effect of asset return on information asymmetry is not statistically significant.

Research suggestions

The suggestions obtained from this research are presented in two sections: practical suggestions and suggestions for future research, which are considered in the section of practical suggestions of two main groups, first, investors and second, company managers.

Practical suggestions

According to the results of the first and second hypotheses of the research, the results show that long-term debt and market leverage have a negative and significant effect on information asymmetry of companies. And this indicates that the more companies have long-term debt and market leverage, the less information asymmetry they will face, so investors can predict the proposed price gap and the stock carpet, and from this The way to make more profit from buying and selling stocks is to achieve this goal by comparing long-term debts and market leverage of companies.

Investors are advised to pay enough attention to the amount of long-term debt, market leverage and the amount of institutional shareholders of companies to buy stocks, because information asymmetry has the opposite effect on these important items, and this can increase the value of the investment. They become.

Due to the fact that information asymmetry is affected by important factors such as market leverage and long-term debt, institutional shareholders, so it is suggested that the Exchange Organization, Iran OTC companies create disclosure requirements for listed companies and this disclosed information to Provide speed to investors.

Provide complete guidance from the stock exchange organization or stockbrokers; Of course, before the investor buys a share, this issue causes the investor to buy or sell shares or even when offering to buy or offer to sell shares; Be more careful. Or make arrangements so that financial analysts can actively take on the role of guiding and guiding novice investors on the Tehran Stock Exchange.

Suggestions for future research

- The effect of industry type on the amount of stock information asymmetry in companies.
- Investigate the relationship between financial leverage and daily stock turnover.
- Investigate the relationship between information asymmetry and stock prices.
- Investigating the relationship between daily returns of stocks and institutional shareholders.
- Investigating the financial context of Iranian companies.

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