

A Study of the Relationship between Conservatism and Capital Cost of Listed Companies: Some Iranian Evidences

¹Mahdi Salehi, ²Mahmood Hematfar, ³Pyman Khazae

¹Assistant Professor of Accounting, Ferdowsi University of Mashhad, Mashhad, Iran.

²Assistant Professor of Accounting Department, Boroujerd Branch, Islamic Azad University, Iran.

³M.A holder in Accounting, Boroujerd Branch, Islamic Azad University, Iran.

Abstract: In this study the relationship between two criteria of conservatism has been investigated including time asymmetry of profit and ratio of the marked value to book value to cost of common stock. The results of the study indicate that the impact of conservatism on the cost of common stock capital indicate that research results confirm the existence of inverse relationship between conservatism and investment cons of common stock and this relationship is important statistically. The results of the study show that impact of asymmetric timeliness profits on the cost of common stock is more than the proportion of marked value to the book value.

Key words: asymmetric timeliness profit, ratio on of marked value to book value, cost of common stock capital.

INTRODUCTION

Tehran Stock Exchange (TSE) is one of the main components of market forming capital that its mainline is to attract and direct the wandering and dispersed savings and liquidity in society toward optimal paths such that with optical allocation of scarce financial resources, major part of capital could be absorbed in the most profit activities and projects.

This market is a confluence place for supplier and demander of capital. On the one hand, companies and manufacturing units assuming individual investment and limited resources enter this market.

As a demander of capital and an the other hand there are capital suppliers or shareholders who are considering the degree of taking a risk expect a certain rate of return of supplied capital and considering that these investor can invest their funds in similar projects. The expected rate of return of investing in institute is the opportunity cost of funds supplied by them.

Company performance and production units should be towards maximizing wealth for shareholders. One way to maximizing shareholders' wealth which could be done with representing dividends and increasing in the price of stock market is that the cost of all inputs including capital cost could be minimized. On the opposite side financial statements are the most important financial report which senior managers of company are responsible for preparing them after preparation, extra users can utilize them. Wide range of users including various parts such as investors, financial analyst, bankers, credit donors and each of there components according to diversity of their needs demand specific information and it is impossible that a financial statement producers provide all of these needs. Due to the importance of investors with regard to the plurality and their direct influence on decisions and policies of the company through owning capital, more attention is given to the needs of investors. And it is assumed that meeting needs of investors give result to fulfill the other needs of users. If it can be seen a meaningful relationship between conservatism and capital cost. Then it can be claimed that conservatism can reduce capital cost and can increase shareholders wealth.

Conservatism:

The most common definitions of conservatism used in the financial accounting literature result from two distinct forms of conservatism; conditional conservatism and unconditional conservatism (Beaver and Ryan 2005). Conditional conservatism refers to the manifestation of conservatism as the asymmetry in response of earnings to good and bad news measured by the method developed in Basu, (1997) (see, for example, Francis, *et al*, 2004).

Traditionally, conservatism in accounting means when in doubt chooses the solution that will be least likely to overstate assets and income (Kieso, Weygandt, and Warfield, 2006). Thus, conservative behavior involves choosing lower (rather than higher) revenues, higher (rather than lower) expenses, and recognizing unrealized losses but not unrealized gains (Beaver, 1998). In times of growth in investment, this leads to a downward bias in reported earnings and net assets. If the effect of the downward bias in conservatively reported earnings is not clearly understood by analysts, it may lead to overly optimistic analysts' forecasts. The predictive ability of analysts is further hampered when a firm's growth in investment changes, leading to a change in the effect of

conservatism on reported earnings (Penman and Zhang 2002). If analysts consistently and systematically misestimate the effect of accounting conservatism, do managers bridge this information gap by providing voluntary disclosures? The objective of this paper is to examine the relation between accounting conservatism and voluntary disclosure behavior of managers.

The theoretical propositions are consistent with the results and suggestions in Ahmed, *et al.*, (2002) that the reputation effect from conservative accounting appears to reap real economic benefit in the form of reductions in the cost of debt. Consistent with these arguments is the idea, though more simplistic, that high quality firms can choose to be more conservative and establish that they do not need to use aggressive accounting practices to provide strong earnings and therefore returns to investors. It is plausible that market participants also perceive a firm that has adopted conservative accounting practices as less risky than a firm that adopts aggressive accounting practices. Risk is reduced where there is a greater degree of verifiability and reliability in the accounting numbers as a result of the early recognition of losses and potential liabilities and the conservative valuation of assets.

Conservatism and Cost of Capital of Common Stock:

Two important reporting features on conservative accounting are asymmetric timeliness in recognition of accounting gains versus losses and systematic understatement of net assets (Givoly Jayn and Natarajan, 2007; Roychowdhury and Watts, 2007). These two features result from accounts' predisposition to require a higher degree of verification and certainty for the establishment of assets as compared with liabilities. Conservatism, one of the most prominent characteristics of financial accounting, has influenced accounting practices for centuries and is associated with the contracting role of accounting (Watts, 2003). It is regarded as an efficient way to address the moral hazard problem arising from the asymmetric information among interested stakeholders.

LaFond and Watts, (2008) conclude that information asymmetry between inside and outside equity investors generates the demand for conservatism in financial statements.

Actually, this perspective constitutes our major hypothesis that the stakeholders of firms with less solid corporate governance have a greater demand for conservatism. A number of measures of aggregate conservatism have been proposed, with the Basu, (1997) asymmetric timeliness measure being the most prominent one (Ryan, 2006).

Investors put their decision based on balance between risk and return. They are interested to estimate the expected return of future investment by information reported by company and other evidences. Higher quality information results to lower ambiguity in estimating the expected return and risk of information will be reduced. Capital cost is considered based on two dimensions: intra-organizational and extra-organizational. From extra-organizational view point, capital cost is used in evaluating securities and company performance and from intra-organizational view point. Capital cost has a key role in decisions relating to investment and investment priorities, optimal structure of capital and performance evaluation.

Cost of capital is defined conceptually in connection with the expected return in other words. Capital cost is so called a minimum expected rate of return. If it is lower than capital cost, the value of economic units will be reduced. Therefore, managers desire to maintain the value of economic return should try to reach the expected return at least to the capital cost. Here the key to success is to reduce capital cost. If the managers become successful to reduce capital cost of the economic unit, the excess expected return resulted from performing a profitable project which is not profitable for economic units competing with higher capital cost, will add value to the economic cost.

It should be noted that the company should reduce investment risk to reduce its capital cost and to increase shareholders wealth.

One of the components of investment risk in a company is its informational risk. It means more conservative and higher quality and accuracy of information provided by the company. Lower informational risk from the view points of investors.

Therefore, quality of reported information is crucial for managers. Thus, the conservative is a very important matter. Skip to main purpose of the company (increasing shareholders wealth) it will be determined that studying conservatism effect on capital cost of common stock is very important for managers to reach their main goal by determining effect of conservatism on capital cost of common stock. Conservatism in financial report is produced as a result of some economic reasons that will be formatted in four explanations:

- 1- Formal explanation
- 2- Explanation of legal claims
- 3- Tax explanation
- 4- Explanation of accounting rules and regulations

Among the four mentioned above, formal explanation is older than the other once, so that Watts, (2003) beliefs has been used for centuries in accounting. So anyone can present point in recent history since then the influence of the agreement has started. In contrast, the others three explanation are based on more recent

phenomenon and are able to explain conservatism. However results of investigation represent the importance of all of them. Interrelating between these four explanation represent they may emanate a single explanation of conservatism and common features of all of these economic factors is in an “asymmetrical loss function”.

So far, some criticism has been done by groups such as activates in capital market, standard marker, and academic researchers on conservatism which the results as following: 1. Distrust, 2. secrecy, 3. denial of accounting principles, 4. Bias, and 5. mental matter.

Defense made for conservatism is that the senior managers are responsible for preparing financial statements and they have complete knowledge about financial status of the company and have more awareness and with the aim of collecting more financial resources and required capital, they have different motivation consist of motivation of investors and creditors. Naturally, managers tend to be very optimistic about the business unit and if they are asked about financial status of the company, they will answer it are in a best condition.

For example, to reduce costs and to increase profits, they identify cost of a period as assets. Under such conditions, conservatism is used as a principle of limiting accounting and it is used to moderate manager optimism and to protect the rights of shareholders. Conservatism principle has caused a method will be selected and applied among different choose which has the least additive influence on net profit and total assets of the company.

Criteria of Conservatism Evaluation:

In a real sense it can used three criteria for evaluating conservatism as following:

- 1- Net asset criteria.
- 2- Criteria of accrual items and profit.
- 3- Criteria of relation between stock profit and return.

Net Asset Criteria:

Although market value of assets and debt that constitute the net assets change in each course, all of these don't reflect in financial reports and accounts. Based on conservatism increasing in the value of asset (profits) that isn't enough to confirm won't be recorded while the reduction in the value of assets (losses) with the same degree of confirming will be recorded. As a result, net assets will be represented with the value less than their market value.

In estimating this representation, that it can be used actually less stock assessment model for business units or proportion of book value of net assets to their shares value (ratio of book value to market value)

Criteria of Accrual Items and Profit:

Conservatism indicates that profits are more stable than losses because financial statements can't identify insusceptible increasing in net asset value at the time of occurrence.

Criteria of Relation Between Stock Profit and Return:

The price of stock market indicates changes of asset value when changes occur whether they include losses or profits from asset value. So we can say stock returns are always opportune. Since conservatism expects that the basis for identification of accounting losses is timelier than profits so it is expected that accounting losses has more time symmetry with stock return than the accounting profits.

Using these principles, Bassu, (1997) introduced a criterion so called “time asymmetry of profit” which will be discussed in the next parts.

Financing decisions:

Decisions concerning financing needed for institution are the most important financial decisions. The important of these decisions and its effects on financial structure of the institution and ultimately the interests of investors is to the extent that any decision if this type is considered strategic decision of a company should ensure that financing of which methods could better supply future interest of the company. Task of each financial manger is optimizing the structure of assets, debts, equities to maximize shareholders wealth. Therefore, financial manager can affect shareholders wealth through changing for example in profit per share at present and future, time scheduling and risk profitability, policy of profit sharing and choice of financing method.

Generally, there are four main sources of financing for profit units as follow:

- 1- Borrowing.
- 2- Issuing preferred stocks.
- 3- Issuing common stocks.
- 4- Using of retained earning.

Borrowing and releasing common and privileged stock have common features means that financing is outside of profit unit and its operations. While the cumulative profit represents a domestic sources of financing. Financing through releasing common stock and using accumulated interest have a common feature, too; because they represent the grant funds by owner of profit unit.

Financing Through Borrowing (debt):

When a profit unit supplies the required funds by borrowing, it is necessary to commit repayment of principal and profit of the borrowing. The terms and procedure of repaying borrowing and paying its costs are usually reflected in the respective contract.

Preferred Stock:

Preferred stock has some feature that makes it to place between the financing methods through borrowing and common stock.

Preferred stock is similar to borrowing in terms of being given the same amount or prior to payment of common revenue. Rights of preferred shareholders are kept through some characteristic that is usually reflected in the agreement of the preferred stock.

Common Stock:

Common stock is a kind of financial assets that represents ownership in a company and some feature of common stock include property right, the right to vote, control of company and priority in buying new shares. These papers is a major source of financing companies and releasing these papers has its own specific conditions (according to each country) and its difference with the other two financing sources is that the propagator companies will not pay any interest or fixed annual profit per share and those who are buying these securities are involved in profitability and revenue as a result of company operations.

Profit units can supply the required funds through issuance and sale of common stock to investors who were shareholders before or they become shareholder by buying new shares. As mentioned before, ordinary shareholders have the right to hate as profit unit owners and through this in public assemblies, board of directors are selected.

Financing Through Retained Earning:

Retained earning consists of remaining in a profit unit after the dividend is paid, but financing through retained earning will reduce dividend payable to the present shareholders

Review of Literature:

Xili, (2009) investigated the relationship between conservatism and cost of capital and he found out more conservatism has resulted in reduction of capital cost of debit.

Beatty and Weber, (2005) also confirmed results of researches were done before and they showed that conflict of interest between shareholders and creditors in borrowing contracts will increase using conservatism in financial reporting.

Francis, Olson, and Schipper (2003) investigated relationship between suitability and conservatism as two features of income with capital cost and discovered the importance of the ratios.

Research Hypothesis:

According to above mentioned literature the main is postulated as following:

There is a significant relationship between conservatism and the capital cost of the common stock. Therefore, the overall research model is as follows:

$$CE_{j,t} = \beta_0 + \beta_1 MTB_{j,t} + \beta_2 CON_{j,t} + \varepsilon_{j,t}$$

With regard to the main hypothesis two sub-hypotheses are as following:

First sub-hypothesis:

There is a significant relationship between time asymmetry of profit and the capital cost of the common cost.

Second sub-hypothesis:

There is a significant relationship between the ratio of marked value to the book value in the end of estimated course and the capital cost of the common stock.

Research Methodology:

In this study, the relationships between variables are analyzed based on the objective of the research. Correlation studies can be divided in to three categories based on the objective:

- A: two variables correlation studies
- B: regression analysis
- C: analysis of covariance or correlation matrix

With regard to investigating the relationship between conservatism and the capital cost of the common stock, and evaluating the relationship between time asymmetry of profit and the capital cost and the ratio between market value to book value with the capital cost of the common stock, so in performing this research, variables correlation study and regression analysis were used.

Population of the Study:

Companies listed in Tehran Stock Exchange have considered the population of the study. The statistical sample is selected on the basis of the following conditions:

- A: these companies should be traded at the beginning of 2006.
- B: Trading of the share of these companies shouldn't be stopped in stock exchange during 2006-2009. In the other words, the share of these companies should be active during the years mentioned.
- C: Required access to the financial statements should be possible. Considering the above conditions among all companies which are listed in Tehran Stock Exchange, 50 companies were selected as study samples.

Research Variables:

Ratio of profit to the stock price (E/P), cost of capital of common stock are used as dependent variables. In this study, independent variables are stock return (R) and mark value to the book value.

Regarding to the calculation of the ratio of profit to the stock price (E/P) Basu, (1997) used stoke returns to evaluate news and using regression between profit and stock return, he fount out that the response of profit relate to bad news was more timely than the response of profit relate to good news:

$$E_t / P_{t-1} = a_0 + \alpha_1 DR_t + \beta_0 R_t + \beta_1 R_t DR_t + \varepsilon_t$$

- Where E_t= profit in the year t.
- P_{t-1}= the marked price of stock at the beginning of year t.
- R_t: stock return in the year t.
- DR_t = It is an index that if R_t is negative, it will equal to one and if it is positive, it will equal to zero.

Calculation Common Stock Investment Cost:

Estimated cost of common stock, financial structure is related more to the company activities, for calculating the cost of common stock, following simple relationship can be used:
 Cost of common stock = current profit divided by marked price/market price.

Method of Divided Profit (Gordon model):

For estimating the cost of common stock of a company more accurately, price sensitivity and performance of current and future demands of shareholders should be estimated in this regard," cash dividend assessment model" can be used and the following formula can be utilized:

$$p_o = \frac{D_1}{Ke - y}$$

- p_o = Up to date price of the cash stock
- D₁ = divided profit at the first part to the year.
- Ke= common shareholders expected rate of return.
- y= growth rate of cash divided equivalent to geometric mean of growth rate of divided profit.

By displacing the above formula, the expected rate of return (Ke) or in other words, the rate of common stock from cumulative profit can be calculated as follows.

$$ke = \left[\frac{D_1}{P_0} \times 100 \right] + g$$

- Calculations of stock return (R)
- Stock return from maintenance and purchase is equal to stock price changes and cash benefits, shares divided by stock price at the beginning of the period.

$$R_t = \frac{D_t + p_t(1 + \alpha + \beta) - (p_{t-1} + C\alpha)}{p_{t-1} + c\alpha} * 100$$

P_t = the share price at end of t

P_{t-1} = the share price in the first period t

D_t = the approved cash profit in the first of t per share in the first period of t

α = Ratio of increasing capital from demands and brought cash.

β : Ratio of increasing capital from reserve.

C: amount of money paid nominally per share by investors for increasing capital from demands and brought cash.

Ratio of market value to the book value of stock (MTB):

Ratio of MTB is a criterion for measuring conservatism which includes the result dividing stock market value to its book value.

Denominator of this ratio is the result of dividing equities of shareholders in balance sheet by the number of common stock of the company (MTB is calculated per share).

Testing of Main Hypothesis:

Using correlation analysis and by referring to the tables of output information of SPSS. We can suggest about the companies as follows:

H_0 = There is no meaningful relationship between conservatism and investment cost of common stock.

$$H_0 = \beta = 0$$

H_1 = There is a meaningful relationship between conservatism and investment cost of common stock.

$$H_1 = \beta \neq 0$$

Estimated regression equation is as follows:

$$cE = 0.579 - 0.004 MTB + 0.579 E/P$$

$$r = 0.451$$

$$R^2 = 0.203$$

Meanwhile, the overall equation is composed of three variables CE, MTB and E/P that in the above equation based in Table 1. E/P is meaningful and MTB isn't meaningful.

Table 1: The results of three variables.

Model	β	T	p-value	Result
β_0	0.105	4276	<0.001	significant
MTB	-0.004	-1.571	0.118	insignificant
E/P	0.579	5.905	<0.001	significant

As observed in Table 2. H_0 Hypothesis is rejected at 0.05 significance level; as correlation coefficients, $r=0.451$, is moderate, therefore it can be concluded that there is a negative relationship between conservatism cost of common stock. But this relationship regarding given low coefficient(r) seems to be average.

Table 3: result of the main hypothesis.

Hypothesis	α	P-value	R^2	result
H_0	0.05	0.001	0.451	rejected

Testing of sub-hypotheses

As it was explained in before, conservatism is assessed in three ways which in sub- hypotheses.

Conservatism is assessed in two ways MTB and E/P, and then its relationship with investment cost is reviewed

First sub-hypothesis testing

H_0 = There is no significant relationship between asymmetric timeliness profits and investment cost of common stock.

$$H_1 = \beta \neq 0$$

Estimated regression equation is as follows:

$$CM=0.08+0.634MTB$$

$$r=0.439 \quad R^2 = 0.193$$

As is seen in Table 3, hypothesis H_0 is rejected in the significance level of 0.05 and regarding correlation coefficient $r=0.439$, it is average. Therefore, it can be concluded that there is a significance relationship between asymmetric timeliness profits and investment cost of common stock, but regarding low coefficient (r), it seems to be average.

Table 3: Results of the first sub-hypothesis testing .

Hypothesis	α	P-value	R	R^2	result
H_0	0.05	0.001	0.439	0.451	Rejected

Testing of second sub-hypothesis

H_0 : There is no significant relationship between the ratio of market value to book value and investment cost of common stock.

$$H_0 = \beta = 0$$

H_1 : There is significant relationship between the ratio of market value to book value and investment cost of common stock.

$$H_1 = \beta \neq 0$$

Estimated regression equation is as follows:

$$CE=0.228 -0.01 MTB$$

$$r=0.249$$

$$R^2=0.062$$

As is seen in Table 4, hypothesis H_0 is rejected in the significant level of 0.05 and regarding correlation coefficient is $r=0.249$ so it is weak. Therefore, it can be concluded that there is a significant relationship between the ratio of marked value to book value and investment cost of common stock, but this relationship seems to be weak regarding low coefficient (r).\

Table 4: Results of the second sub-hypothesis testing.

Hypothesis	α	P-value	R	R^2	result
H_0	0.05	0.001	0.249	0.062	Rejection

Conclusion:

In analyzing the main research hypothesis, it is observed that there is no strong relationship between conservatism and investment cost of common stock based on the correlation coefficient and the relationship. Analysis of research secondary hypothesis

In analyzing the first sub-hypothesis, it is observed that there is a meaningful and strong relationship between CE and E/P based a correlation coefficient and determining and it is an average relationship. Also, in analyzing the relationship between variables in the period of the study, the result has been rejected in all years. In analyzing the second hypothesis, it is observed that there is no significant and strong relationship between CE and MTB based on correlation coefficient and determining and their relationship is weak.

Limitations of the Study:

Certainly in doing each research, researcher will encounter obstacles and problems that this research also has not been excluded. The most important of these problems include:

- 1- Direct resources limitation.
- 2- Problem in data collection.

Suggestion for Future Researches:

1- Regarding criteria of conservatism assessment which include three types (criteria of net assets, criteria of profit and commitment items, criteria of relation between profit and stock return). In this study, the first third criteria are used.

Therefore, it is recommended to perform a research for specifying the relationship between the criteria of profit and commitment items with investment cost of common stock.

2- Studying the relationship between conservatism and dept.

- 3- Studying the relationship between conservatism and privileged shares.
- 4- Studying the relationship between conservatism and financial ratios.
- 5- Studying the relationship between conservatism and companies' profitability.
- 6- Studying the relationship between conservatism and investment cost in different industries.

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