Asymmetric Timeliness of Earnings: Cost Stickiness or the Conservatism

Faramarz Maghsuodi[1*] and Amirali Bandarian[2]

[1]*Department of Accounting, Izeh Branch, Islamic Azad University, Izeh, Iran*
[2]*Department of Accounting, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran*
*Corresponding author's e-mail: masadi702@gmail.com

ABSTRACT: Conditional Conservatism is more demonstrability degree to identify good news as profit than bad news as loss called asymmetric timeliness of earnings too. It can be associated with another phenomenon called the costs bonding. It means that the costs can be increase in proportion to increase in sales, but does not decrease in proportion to its decrease. Both phenomena can influence on asymmetric timing of earnings criterion in a direction. This study considers the profit asymmetric timeliness of earnings due to conservatism and the costs bonding based on a 10-year period from the beginning of 2004 to end of 2012, using the information of 84 listed firms in Exchange of Iran and pooled data; the results showed that the assumption of being conservatism and the cost bonding in Tehran Exchange is confirmed and leads to asymmetric correlation between the earnings and the sale increases against their decreases and the lack of controlling the costs bonding, also lead to overestimate the conservatism criterion.
Key words: Conventional Conservatism, Costs Bonding Intensity, Selling, General and Administrative Costs

INTRODUCTION

The experimental studies documented a *piecewise linear relation* between profit and stock returns and often it is attributed to conditional conservatism. The concept of conditional conservatism lays in the financial accounting debates and implies that bad news (negative returns) are identified in earnings more complete and faster than good news (positive return) and since it reflects the news return completely, so the correlation between earnings and return of bad news (negative return) must be stronger than good news (positive return).

Many studies develop the results compatible with this prediction and address the effects of various factors of demand for conservatism, such as contracts, law, tax, legal proceeding, on these piecewise linear relation. Recently, some researchers argued that the same piecewise linear relation may be due to another resource: the costs bonding. The recent research on the asymmetric behavior of cost, mainly offer a different interpretation about asymmetric timing of earnings. They focus on "costs bonding" issue. The concept of costs bonding was stated by Anderson et al. [1]. They argue that the selling, general and administrative costs (SG&A) have different reactions against the increased and decreased changes in the sale levels. If the increase rate of costs when the incomes increase be larger than decrease rate of costs when the sales decrease, then it means the costs are bonding.

Once the managers face to sale decrease, they must select whether omitting the committed resources and, if it is so, how many of them must omit. Since, they consider the adjustment costs related to omit the resources in current period and these costs to replace the resources in future, if the sale returns to initial state, the managers often keep some unused resources to get rid of the cost adjustments. Therefore, decreasing the costs can be less than decreasing in sale. On the other hand, when the sales increase, they must add the needed resources to adopt with sales growth. Thus, the costs on average have more increase than a certain amount of sales increase compared with their decrease against the same decrease in sales that it in turn leads to costs bonding. The asymmetric reaction of costs to the sales changes cause to more asymmetric in the profit behavior, as the costs enter to profit and loss statement with a negative sign [2].

The costs bonding implies that profit must show less reaction to sales increase than its decrease. It is likely that the positive returns be along with sales increase because there is a less strong relationship between profit and sales. In contrast, since there is a stronger relation between profit and sales, it is more likely to see the sales decrease when the return is negative. Therefore, if the measured decisions of management about resources lead to the costs bonding and in estimating of conservatism degree do not consider its detrimental effect, then in can be overestimate, in other word it is likely to overestimate the real degree of conservatism by conservatism literature [3]. This study attempts to design a new experimental test using the findings of literatures on the conservatism and the costs bonding and consider how to separate these two phenomena, even if they are coexisting.

The conventional conservatism and the costs bonding are two separate phenomena fundamentally. The former one can causes to make asymmetry in accounting system that returns economic activities into financial data, but the latter one implies on existing the asymmetry within the economies activities. Nevertheless, both phenomena have a significant effect on the profit. Thus, this study addresses the conservatism in perspective of asymmetric timeliness of earnings closer and whether or not a part of this can derived from other phenomenon called the costs bonding?

Basso [4] in his research showed that bad news reflects faster than good news in profit that implies on conservatism. The study of Anderson et al (2003) is the first one that considers the cost bonding experimentally. Their results indicated that 1% increase in sales equals with 55% growth in selling, general and administrative costs and 1% decrease in the sales level leads to 35% decrease in them. Khan and Watts in a study as" experimental estimation and features of year criterion of an accounting conservative firm" founded that conservatism can decrease when the firm size increase but it can increase with growth of ratio of market value to book value of equity and also conservative financial leverage. Therefore, their study showed that as the firm life decreases and with growing the particular uncertainty of a firm and the investment cycle length, the conservatism will increase. Banker et al. [5] study showed that the conservatism and costs bonding are exist simultaneously. No considering the costs bonding impacts cause to overestimate the conservatism to 16% more than its real amount.

Research hypothesis

Both conservatism and costs bonding can develop a similar pattern of asymmetric timing of earnings to the stocks return. Using the independent variability in stock return after controlling the sales, we can separate the conservatism from the costs bonding. Any asymmetry in correlation between earnings and stock return, after controlling the sales, can be only attributed to conservatism. Accordingly, the first research hypotheses can be formulated as follow:

The first hypotheses: after controlling the sales, the conservatism (and no bonding) leads to an asymmetric correlation between earnings and positive return compared to earnings and negative return.

Similarly, after controlling the stock return, independent variability in sales can draw the costs bonding and state the news about future cash flows completely and shortly in every labor market of stock return. Thus, after controlling the stock return, the sales should not develop the incremental information about the cash flows and will have no effect on the profit through conservatism. Therefore, after controlling the stock return, any asymmetry between earnings and sales can be merely because of bonding. So, the second research hypotheses can be formulated as:

The second hypotheses: after controlling the stock return, the cost bonding (no conservatism) can lead to an asymmetric correlation between earnings and the sales increases against their decreases.

The stock return correlates with the sales changes positively. The cost bonding implies that earnings must be more sensitive to the sales decreasing than its increasing. Thus, if the standard model of Basso [4] is not controlled, then it can be omitted by variable bias and will be subject to distortions. Especially, estimations about asymmetric correlation between earnings and stock return in Basso's model (1997) includes both direct asymmetry due to conservatism and incremental asymmetry through the cost bonding that act in the same direction. The additional controlling of the cost bonding can remove this bias of omitted variable and must causes to decrease the estimation of conservatism degree. Therefore, the third research hypothesis is:

The third hypothesis: considering the costs bonding effect can reduce the estimation of conservatism criterion.

Khan-Watts [6] use the size of firm, financial leverage and the ratio of market value to book value as standard drivers of conservatism degree which rely on foundation theory of conservatism. They argue that the bigger firms because of their stronger information environment can reduce the information asymmetry and so demonstrate the less conservatism. Since, there is more conflict of interest between creditors and investors in companies with high financial leverage, they show more conservatism based on contract demand. The firms with further investment opportunities (higher ratio of market value to book value), also have more contract demand for conservatism. Since, Khan-Watts' variables [6] may influenced the costs bonding, it is essential testing the theoretical predictions after the cost bonding control. Therefore, the fourth hypothesis can be formulated as:

The fourth hypothesis: after controlling the costs bonding and its interactions with Khan-Watts' variables (2009), asymmetric timing of earnings relative to good news against bad ones increased with the firm size and market value to book value of equities and financial leverage.

Testing models of Research hypotheses

In this research, two models used to consider and test the hypotheses. The first is Basso's asymmetric timing standard model (1997) that expanded for including the costs bonding and Khan-Watts' variables effect (2009). The second model is cost bonding standard model that introduced by Anderson et al. [1] that expanded for considering the conservatism.

The model (1-1), the main Basso's model (1997), expanded in a manner that can be test the earnings reaction to conservatism and cost bonding.

$$x_{i,t}/p_{i,t-1} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 \text{RET}_{i,t} + \alpha_3 DR_{i,t}\text{Ret} + \beta_1 SD_{i,t} + \beta_2 SD_{i,t}\text{REtT}_{i,t} + \varepsilon t$$

Where $x_{i,t}$ is per share earnings and $p_{i,t-1}$ the stock price of firm i at the beginning of current year, $\text{Ret}_{i,t}$ annual stock return, and $DR_{i,t}$ a dummy variable that is equal one if the return be negative. $SD_{i,t}$ is another dummy variables that shows the sales in current year reduced to last year and its grow rate is one.

Model (1-1) has expanded Basso's model through adding the virtual variable $SD_{i,t}$ and $SD_{i,t}RET_{i,t}$. These phrases are an index for the costs bonding. Costs bonding implies that earnings decrease for a certain amount of sales reduction can be more than the earnings increase because of the sales growth (as sales decline). Because the sale changes $\Delta sales_{i,t}$ has a relative correlation with its contemporary returns $\text{Ret}_{i,t}$, it is used Ret (return) as an index for the sale changes. It means that the stock return in Model 1-1 can affect on the earnings by two reasons; on the one hand, directly because of conservatism and on the other indirectly as an index for the sale changes.

$SD_{i,t}\text{Ret}_{i,t}$ is considered as an index for $SD_{i,t}\Delta sales_{i,t}$ includes the earnings asymmetric reaction to the sales decreases against its increases because of the cost bonding. This model, also indirectly allows to whether or not the lack of control the costs bonding in previous research can lead to overestimate the conservatism?

Model (2-1) to include the main drivers of conservatism expanded based on Khan-Watts' study(2009), means the firm size, financial leverage and the ratio of book value to market value. Since, these variables may have influence on the bonding degree, it is included the parallel interactive phrases in the bonding section of model.

Model (2-1)
$$x_{i,t}/p_{i,t-1} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t}RET_{i,t} + \alpha_{4..6}KW_{i,t} + \alpha_{7..9}KW_{i,t}RET_{i,t}$$
$$+ \alpha_{10..12}KW_{i,t} + \alpha_{13..15}KW_{i,t}DR_{i,t}RET_{i,t} + \beta_1 SD_{i,t} + \beta_2 SD_{i,t}RET_{i,t} + \beta_{3..5}KW_{i,t}SD_{i,t}$$
$$+ \beta_{6..8}KW_{i,t}SD_{i,t}RET_{i,t} + \mu_{i,t}$$

Where $Kw_{i,t}$ are khan-Watts' variables (2009) include the firm size $SIZ_{i,t}$, the price of book value to market value $BM_{i,t}$ and the financial leverage $\text{Lev}_{i,t}$ and $\mu_{i,t}$ are the error phrases . The interactive phrases $\alpha_{13..15}KW_{i,t}DR_{i,t}RET_{i,t}$ show the relationship between *Kw* and the asymmetric timing of earnings variables due to conservatism and the interactive phrases $\beta_{i,t}.KW_{i,t}.SD_{i,t}.RET_{i,t}$ include the relationship between *Kw* and the costs bonding variables, such that *Ret* can be an index for the sale changes.

Model (3-1): the model bellow is a combination of Basso's model with the costs and benefits behavior in cost accounting that modeling the costs and benefit as a function of sale. In this model, there are two reasons for controlling the sales as a driver for earnings: one of the cost accounting aspects is that sale is the main driver for costs and then earnings, therefore its omission in the standard models of conservatism must lead to bias the omitted variable that potentially can distort the conservatism criteria even in the lack of bonding; and the second reason is that the costs bonding causes to develop a asymmetric relationship between earnings and sale and thus omitting the sales (include its asymmetric effect on earnings) in the standard models probably can distort the conservatism criteria directly. The estimated model is as below:

Model (3-1)
$$x_{i,t}/p_{i,t-1} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{it} + \alpha_3 DR_{i,t}RET_{i,t} + \beta_1 SD_{i,t} + \beta_{2\,SALES_{i,t}}/p_{it_1}$$
$$+ \beta_{3\,SD_{i,t}\,SALES}/p_{i,t_{-1}} \upsilon_{i,t}$$

Where $\text{Sales}_{i,t}$ is the sale of each share, $\mu_{i,e}$ the error phrase and other variable that explained previously. Since, we control the costs bonding explicitly, the asymmetric timing can be only attributed to conservatism.

$SD_{i,t}$, $sales_{i,t}$ and $SD_{i,t}\text{Sales}_{i,t}$ phrases include the relationship between sale and profit including potential asymmetries in this relationship that occurs because of the costs bonding. It is expected that β_1 be negative in Model 3-1, so it can reflect the lower earnings (means higher costs) for the same level of sales after the sales decrease against its increase. Because the sale changes can affect on the slope of relationship between costs and benefits, thus we expect that in the sale decline time, the slope of profit to sale be lower than sale increase.

Model (4-1) such as Model (1-1) expanded for Khan-Watts' features (2009).

Model (4-1)
$$x_{i,t}/p_{i,t-1} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t}RET_{i,t} + \alpha_{4..6}KW_{i,t} + \alpha_{7..9}KW_{i,t}RET_{i,t} +$$
$$\alpha_{10..12}KW_{i,t}DR_{i,t} + \alpha_{13..15}KW_{i,t}DR_{i,t}RET_{i,t} + \beta_1 SD_{i,t} + \beta_2 SALES_{i,t}/p_{i,t-1} +$$
$$\beta_3 SD_{i,t} SALES_{i,t}/p_{i,t-1} + \beta_{4..6}KW_{i,t}SD_{i,t} + \beta_{7..9}KW_{i,t}SALES_{i,t}/p_{i,t-1} +$$
$$\beta_{10..12}KW_{i,t}SD_{i,t}SALES_{i,t}/p_{i,t-1} + \eta_{i,t}$$

The interactive phrases $\alpha_{13..15}Kw_{i,t}RET_{i,t}$ measure the relationship between Khan-Watts' variables (2009) and asymmetric timing of earnings due to conservatism. The interactive phrases $\alpha_{10..12}Kw_{i,t}SD_{i,t}.\frac{\text{Sales}_{i,t}}{p_{i,t-1}}$ include the relationship between Khan-Watts' variables (2009) and the bonding degree.

Model(1-2): in former models, Basso's model(1997) expanded for including the costs bonding and now to complete the standard model of the costs bonding we expand ABJ to include the conservatism:

$$\Delta \ln \cos T_{i,t} = \alpha_{\cdot} + \alpha_{\backslash} SD_{i,t} + \alpha_{\cdot} \Delta \ln SALES_{i,t} + \alpha_{\cdot} SD_{i,t} \Delta \ln SALES_{i,t} + \beta_{\backslash} DR_{i,t} + \beta_{\cdot} REt_{i,t} + \beta_{\cdot} DR_{i,t} RET_{i,t} + \omega_{i,t}$$

RESULTS

The hypothesis test and the results of model estimation:

The first hypothesis: based on Basso's model (1997), $RET_{i,t}$ is an index for the news about the future cash flows. The coefficient of $DR_{i,t} * RET_{i,t}$ phrase, means α_3 in Models 1-1 and 1-3 and β_3 in Model 1-2 include slope difference of the positive and negative returns and develop the asymmetric timing of earnings because of conservatism. The first hypothesis implies on being positive the α_3 in models 1-1 and 3-1 and β_3 in model 1-2. It means that the bad news (negative return) can be reflected faster than good news by earnings.

Table 1. the results of research model tests in pooled data level

Model 1				Model 2				Model 3			
Description	α	t-static	p.v	Description	α	t-static	P.V	Description	α	t-static	P.V
C	0.081	3.07	0.00	C	0.068	3.07	0.000	C	0.025	6.12	0.00
RET	0.034	10.06	0.00	RET	0.034	10.06	0.00	SD	-0.003	-1.85	0.11
DR	-0.002	-2.42	0.01	DR	-0.002	-2.42	0.01	LnsaleΔ	0.75	4.25	0.00
DR*RET	0.134	3.72	0.00	DR*RET	0.151	3.72	0.00	LnsaleΔSD*	-0.246	-2.99	0.00
SD	-0.068	-2.96	0.00	SD	-0.027	-2.96	0.00	DR	-0.003	-5.36	0.00
SD*RET	0.045	2.30	0.01	SALE/P	0.007	3.18	0.00	RET	0.000	1.51	0.13
-				Sd*Sale/P	-0.016	-8.7	00.00	DR*RET	-0.048	-8.361	0.00
F-static (P.V)	17.854 (0.000)			12.31(0.000)				17.989 (0.000)			
R²	0.23			0.29				0.48			

As we can see in Table 1, the coefficient of phrase $DR_{i,t} * RET_{i,t}$, means α_3 in Models 1 and 12 and β_3 in Model 3 is positive and significant and the assumption about being the conditional conservatism in Tehran Exchange, such as research and confirmed. The said coefficients show that the reaction of earnings to bad news and signs (negative returns) are stronger than its reaction to good ones (positive returns).

The hypothesis 2: after controlling the stock returns, the cost bonding (no conservatism) leads to asymmetric correlation between profits and sale increases against their decreases. As stated previous, the sale changes $\Delta sales_{i,t}$ have a relative correlation with its contemporary returns $Ret_{i,t}$ and Ret (return) used as an index for the sale changes. Thus, in Model 1-1, $SD_{i,t} Ret_{i,t}$ phrase can be as an index for $SD_{i,t} \Delta sales_{i,t}$ that includes asymmetric reaction of profit to the sale decreases against its increases due to the cost bonding. But in Model 3, $\beta_{\cdot SD_{i,t} SALES}/p_{i,t-\backslash}$ phrase and in Model 2-1, $\alpha_{\cdot} SD_{i,t} \Delta \ln SALES_{i,t}$ phrase indicate the costs bonding. According to Table 1, the coefficients of said phrases in Model (1-1) are positive and in Models (1-2) and (1-3) are negative and significant statically that implies on the second hypothesis confirmation and being the costs bonding.

The third hypothesis: considering the costs bonding effect results in reducing the conservatism criterion.

To test the hypothesis above, Basso's main model (1997) with parallel parameters of Model 1-1 compared. The results of estimating Basso's main model without controlling the bonding effect showed in Table 3. Comparing the phrase coefficient $DR_{i,t} * RET_{i,t}$, means α_3 in Basso's main model, with its corresponding value in Model 1-1 shows that this coefficient without controlling the impact of cost bonding leads to overestimating the conditional conservatism criteria (0-031). These results imply on confirmation and acceptance of the third hypothesis.

Table 2. the results of Basso's model (1997) in pooled data level

$x_{i,t}/p_{i,t-1} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t} Ret + \varepsilon t$			
Description	Coefficient	T value	p.v
C	0.071	4.55	0.000
RET	0.042	8.04	0.00
DR	-0.002	-2.87	0.00
DR*RET	0.165	4.18	0.00
F-static(P.V)		16.87(0.000)	
R²		0.21	

The fourth hypothesis: after controlling the costs bonding and its interactive effect with Kan-Watts' variables [6], when the firm size increases the symmetric timing of earnings relative to good news against bad ones can be decrease and it can grow with increasing the ratio of market value to the book value of equity and

financial leverage. This hypothesis using two Models 2 and 4 tested and its results summarized in follow table. In this table only the phrases developed that are essential in the fourth hypothesis test and their analyses are necessary and as there is no need to interpret the rest of model phrases, it is avoided to set other phrases in the table.

Table 3. The results of the fourth research hypothesis in the pooled data level

Model 2				Model 4			
Description	α	t-static	p.v	Description	α	t-static	p.v
SIZE*DR*RET	-0.018	-4.18	0.00	SIZE*DR*RET	-0.017	-3.17	0.00
BM*DR*RET	0.059	3.19	0.00	BM*DR*RET	0.055	2.87	0.00
LEV*DR*RET	0.048	3.72	0.00	LEV*DR*RET	0.051	4.12	0.03
SIZE*SD*RET	0.004	2.06	0.04	SIZE*SD* SALES/P	0.002	2.10	0.04
MB*SD*RET	0.006	1.91	0.06	MB*SD* SALES/P	0.007	5.12	0.00
LEV*SD*RET	0.013	2.81	0.00	LEV*SD*SALES/P	0.000	1.51	0.13
F-static(P.V)	15.652 (0.000)			25.12 (0.000)			
R²	0.32			0.33			

The coefficients of $LEV*DR*RET$ and $BM*DR*RET$ $SIZE*DR*RET$ phrases are α_{13}, α_{14} and α_{15} respectively. The fourth hypothesis implies that $\alpha_{15} > 0$; $\alpha_{14} > 0$; $\alpha_{13} < 0$, means the conservatism degree has an inverse relationship with the firm size and a direct relationship with market value to book value and ratio of financial leverage too. If we have $SD_{i,t}.Ret_{i,t}$, then $\beta_{6..8}KW_{i,t}SD_{i,t}.RET_{i,t}$ phrases in model A-2 can be considered as an index for $SD_{i,t}\Delta sales_{i,t}$ and $\beta_{10..12}KW_{i,t}SD_{i,t}.SALES_{i,t}/p_{i,t-1}$ phrases in Model 4 that represents the Khan-Watts' variables relation (2009) and the costs bonding degree that there is no specific prediction about their relations.

Given to Table 4, all phrases have the same signs for predictions made in the fourth hypothesis, it means that as the firm size increases the conservatism degree will be lower but growing the ratio of market value to book value and financial leverage lead to increase its degree and the estimation of interactive phrases of Khan-Watts' variables (2009) and the costs bonding degree is significant that are differ from the estimation of interactive phrases of Khan-Watts' variables (2009) and the conservatism degree; in general we can say that the fourth hypothesis is confirmed.

DISCUSSION AND CONCLUSION

The asymmetric timing of earnings criteria can reflects the profit of bad news (negative return) faster and more complete than good ones(positive news). Basso [4] used these criteria to measure the conservatism and then other researchers tested it and Basso's predictions about it confirmed by various countries, but recently some researchers identified other resources for these criteria: the costs bonding. When there is costs bonding, the reaction of earnings to the sale decrease will be faster than sale increase.

The Khan-Watts [6] also showed that there is an inverse relationship between the conservatism degree and the firm size and a direct relationship between the ratio of market value to book value and financial leverage.

In this study, the impact of two phenomena, conservatism and costs bonding, considered. According to its findings, being the conservatism and costs bonding confirmed and both of them can affect the asymmetric timing of earnings and returns in a direction. Also, the results showed that controlling the bonding in Basso's model (1997) causes to reduce the conservatism criteria estimation. Also, the main Basso's model (1997) expanded based on Khan-Watts' variables [6]. The results implied that there is a negative and significant relationship between the firm size and conservatism that represents that the big firms have stronger information environment and information asymmetry between contract parties decreases and thus lead to less contract demand for conservatism. Its findings are accordance with Khan–Watts (2009), Banker et al. [5] studies.

Also, according to this study, there is more contract demand for conservatism in the firms with further investment opportunities in future (the higher ratio of market value to book value). Also, the firms with higher financial leverage have more agent problems between creditors and stockholders that represent the higher contract demand for conservatism. Given to the results of hypotheses test, it is also considerable the effect of Khan-Watts' variables [6] on bonding and it is accordance with Banker et al. [5] findings.

REFERENCES

1. Anderson, M. C., Banker, R., & Janakiraman, S. (2003). Are Selling, General and Administrative Costs "Sticky"? Journal of Accounting Research, 41(1): 47- 63.
2. Weiss, D. (2010). Cost behaviour and analysts' earnings forecasts, The Accounting Review 85(4): 1441-1471.
3. Namazi, Mohammad; Davani poor, Iraj (2009): "experimental investigation of the costs bonding behavior in Tehran Exchange". Studies of Accounting and Auditing, No.62, pp. 85-102.
4. Basso, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. Journal of Accounting and Economics, 24 (1): 3-37.
5. Banker, R., Basu, S., Byzalov, D. and Chen, Y.J. (2012). Asymmetric timeliness of earnings: conservatism or sticky costs. Working papers, http://ssrn.com/abstract= 2130897.

6. Khan, M. and Watts, R.L. (2009). Estimation and empirical properties of a firm year measure of accounting conservatism. Journal of Accounting and Economics 48 (2-3): 132-150.