

Examining the changes of conservatism in financial reporting with emphasis on the time-series changes of accruals and MTB

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Abstract

Review the literature of conservatism in financial reporting indicates the importance of conservatism in accounting profession. Researchers have always tried to determine the degree and ways of conservatism in financial reporting and accounting, although this is not done easily, because there is not a direct measure of conservatism. However, conservatism has been one of the key principles in accounting for years, and regardless of the difficulties in its measuring; it can have a major impact on the information content of financial statements. So the main purpose of this paper is to test the changes of accruals and MTB ratio over time in order to know the changes in financial reporting in Iran, because the evidence in the accounting literature in some countries shows conservatism in financial reporting increases over time. In fact, the validity of such claim make all time-series analysis of financial statements meaningless and misleading (which is considered an important source of information in financial markets). So studying about Iran accounting system is important and substantial for all groups of stakeholders. Due to the lack of a generally accepted definition of conservatism, some of conservatism proxies in financial reporting are defined and examined in this paper. This measures focus on the accumulation of non-operating accruals and MTB ratio. Statistical population of this research is the companies listed in Tehran Stock Exchange (TSE) since 2003 to 2011. After adjusting for outliers, sample consists of 116 companies. Although definitive conclusions is impossible, the existent evidence of financial reporting in TSE firms does not support the hypothesis of this paper and shows that the degree of conservatism in accounting has not increased over past decade.

Keywords: operational accruals, conservatism, MTB, non-operational accruals.

Introduction

In a steady state and over a sufficiently long period, accounting-based measures of performance of the firm are expected to converge to the 'true' economic performance as measured by the cash flows from operations. In particular, any departure of accounting earnings from cash flows from operations is temporary and means reverting. This expectation, which underlies the interpretation and analysis of financial statements, was introduced by Feltham and Olson (1995).

This paper analyzes the trends and changes in accruals and accounting earning over last decade, to identify structured changes in financial reporting and accounting systems in Iranian firms and to answer the underlying question about increasing conservatism in financial reporting over time.

Other studies which have been conducted in other countries indicate conservatism in financial reporting has increased over time. One of these studies is the paper of Givoly and Hayn (2000) in USA. Their paper documents changes in the patterns of earnings, cash flows and accruals over the last four decades. They use four measures of conservatism; accumulation of nonoperating accruals, the timeliness of earnings with respect to bad and good news, characteristics of the earnings distribution and the market-to-book ratio. The result was consistent with an increase in conservative financial reporting over time, although there were some in consistent with the data.

Anecdotal evidence suggests that financial reporting has become more conservative in recent years. This evidence includes the numerous FASB pronouncements that have the effect of an earlier recognition of expenses and losses, or a deferral of revenue recognition, for example SFAS No.121, SFAS No. 106 and etc. In Statements of Financial Accounting Concepts (1381) of Iran accounting standard committee explicitly has been emphasis on conservative methods in situations with uncertainty.

Actually conservatism leads firms to estimates losses and expenses faster, and recognizes profits and revenues slower. Despite criticism, conservatism has survived in accounting for many centuries and appears to have increased in the last decade. In fact, conservatism is mechanism that if work properly, can resolve many agency problems and decreased information asymmetry (which rooted in the gap between managers and users of financial reporting). This can also be true conversely, this means that if conservatism was not understood and used well, not only it wouldn't help to resolve these key issues, but also it makes them worse.

The issue of conservatism is also related to the discussion of bubble in the current level of stock prices in Tehran Stock Exchange (TSE). Stock market analysts believe that sudden growth of stock prices is unreasonable because there are some firms which have reductions in their profitability recently and they relate this artificial inflation of stock prices to the good history of financial information, especially high MTB ratio and

accounting profits announced. Finally, all interest groups of financial reporting believe that, if financial reporting becomes more conservative, the time-series analysis and comparisons of financial statements is meaningless and misleading. Of this point of view, conducting a research to assess the degree of conservatism among Iranian firms is important and necessary.

Finally, studying about business environment would help us to understand that challenging business situation (because of various factors such as increased competition between firms, increasing number of litigation against them and etc) is an important factor that has obliged managers to adopt more conservative accounting procedures. This situation has also impacts on the auditing profession associations especially on the attestation services of auditing.

The remainder of the paper is organized as follows; Section 2 reviews the Literature. Research methodology consisting of introducing measures to assess its extent and the data and sample are described in Section 3. Section 4 contains the findings concerning conservatism in Iran, based on the measures introduced in last Sections and the comparison of result with similar research conducted in other countries. Section 5 provides an implication and concluding remark.

2. Literature review

During the past decade due to the financial scandals in large firms such as

Enron and WorldCom in early 2000s, conservatism as a remarkable qualitative characteristic of accounting information gets a lot of attention and is the main focus in many academic studies.

There are lots of studies about conservatism (some of the important ones are mentioned in this paper), but there is no research about changes of conservatism in financial reporting over time in Iran accounting system and without such an essential study, accounting literature is incomplete. So, with regard to the importance of conservatism, this study examines this issue that whether financial reporting becomes more conservative over time or not. In other words, are changes in accruals and MTB ratio over time consistent with increasing conservatism in financial reporting?

One of the early studies of the conservatism belongs to Leftwich (1995). He examines the content of the history of the FASB pronouncements and agenda decisions. He concludes that they manifest a conservative tilt and a predominant concern by the FASB that management is more likely to use its measurement discretion and disclosure options to report higher earnings and net worth over some horizon. Stober (1996), using the market-to-book ratio as a proxy for the degree of conservatism, finds a conservative bias in accounting book values relative to market values.

Basu (1997) in his valuable study devises several empirical measures of conservatism, among them a stronger association of stock price movements and earnings in periods with negative return. In

fact he named this negative return as bad news, because shareholders never like to have negative return in their investment. His results are consistent with the presence of reporting conservatism and with the level of conservatism varying with changes in auditors' legal liability exposure. His study caused an increase in the number of studies about conservatism especially by the use of his model.

Ball, Kothari and Robin (2000) examine conservatism in different countries based on Basu's measure of conservatism, and indicate the same results about the conservatism in financial reporting that accounting is conservatism all around the world. Beeks et al (2004) examine the relationship between the percentages of Non-bound members of the board and conservatism by using the Basu's model. They conclude that there is inverse relationship between the two variables.

Lafount and Watts (2006) indicate information asymmetry between informed and uninformed equity investors generates accounting conservatism in financial statements. Conservatism reduces the manager's incentives and ability to manipulate accounting numbers and so reduces information asymmetry and the deadweight losses that information asymmetry generates. This increases firm and equity values.

Jenhan. P. (2007) conducts a study on the relationship between the level of manager's discretion in accruals and conservatism and finds a direct relationship between the two variables. In other words, the

more authority has given to manager in accruals, the more likelihood to have increased conservative reporting. Frankel et al (2007) examined the relationship between the distribution of earning among shareholders and conservatism. They recognize that when conservatism increases, the distribution of earning among shareholders significantly decreases. Paeik et al (2007) study the relationship between earnings persistence and conservatism and conclude that earnings persistent will decreased when financial reporting is more conservative. In other words, this result is consistent with Dechow's study (1994). Zhang's study (2008) indicates that of conservatism make the market value of net assets to be greater than their book value.

Hui et al (2009) investigate the empirical relation between a firm's accounting conservatism and management's issuance of quantitative earnings forecasts, using three measures of conservatism from prior literature, along with two aggregate measures. They find a negative association between conservatism and the frequency, specificity, and timeliness of management forecasts. Overall, these results suggest that accounting conservatism acts as a substitute for management forecasts by decreasing information asymmetry in the market and reducing potential litigation through the timely reporting of bad news.

So far, many studies conducted in conservatism in financial reporting In Iran, that investigate the relationship between various economic factors and

accounting variables. With respect to the increasing role of financial reporting in Iran's financial markets, it's expected to have more studies about this topic in the future. In the remainder of this section, some important studies will be reviewed.

Rezazadeh and Azad (2009) explain the relationship between information asymmetry among investors and financial reporting conservatism. They measure information asymmetry by differential range between buying and selling proposed stock prices and conservatism by using Basu's models. The results indicate a positive and significant relationship exists between these variables. They conclude that changes in the degree of information asymmetry among investors make changes in the level of conservatism in accounting. Khoshtinat and Yousefi. Asl (2009) have also examined the relationship between information asymmetry with conservatism. Their results is consistent with Rezazadeh's study and shows that information asymmetry among investors can lead to conservatism.

Kordestani and Langeroodi (2009) study the relationship between information asymmetry and MTB of firms. Their investigation recognizes a significant negative relationship between these conservatism measures in accounting. They also find when estimation period of information asymmetry is longer, the relationship of these variables is negative stronger. Saridy (2009) examines the impact

of conservatism on earnings quality and conclusion indicates the more conservatism in accounting, the lower earnings quality; this means there is an inverse relationship between them.

Masomi Bilandy (2010) study the impact of corporate growth and management behavior on conservatism in financial reporting in TSE firms and conclude that depend on the management's motivation, they can behave aggressive or conservative behavior in accounting, but in most cases their behaviors is conservative. According to Hassani's study (2010), there is a significant relationship between percentage of non-bound members of the board and conservatism policies of managers. Mohammad Abadi (2011) realizes that earning persistence reduces when the conservatism in financial reporting and accounting increases.

2.1 Hypothesis development

Despite of the importance of conservatism in accounting, there is no accepted definition of conservatism in accounting. The only 'official' definition is that offered in the glossary of Statement of Concepts No. 2 of the FASB, that conservatism is 'a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered'. However, this definition does not specify the nature of the 'prudent reaction' called for by conservatism nor does it explains how such a 'reaction' may ensure those risks are 'adequately considered'. Wolk et al (1989)

give another definition of conservatism that it is a selection criterion between accounting principles that leads to the minimization of cumulative reported earnings by slower revenue recognition, faster expense recognition, lower asset valuation, and higher liability valuation.

Conservatism is defined as the differential verifiability required for recognition of profits versus losses. Its extreme form is the traditional conservatism adage: “anticipate no profit, but anticipate all losses” (See Watts, 2000). Ball and Shivakumar (2005) note that if operational losses didn’t have to identify timeliness in fiscal year, managers would discontinue long term projects with negative net present value and delay to recognize losses. This action gives increase funding and earning in the short term. In fact, an explanation for conservatism in accounting survived for years is to prevent such management manipulation in financial reporting.

Due to the role of conservatism in accounting profession, examining the changes of conservatism in financial reporting over time would present great results. Accordingly, Givoly and Hayn (2000) conduct a study about changes in financial reporting. The results of a series of tests were consistent with a trend of increased reporting conservatism. While each of their tests had limitations, when considered as a whole the results suggest more conservative financial reporting over recent decades.

Hypothesis of increasing conservatism in accounting is important and effects on information content and time

series analysis of financial statements. Since the nature of accounting profession depends on user of financial reporting, studying this claim in the financial reporting system of TSE listed firms will be required for internal and external users of financial statements. Thereupon, the main purpose of this paper is to answer “has conservatism in financial reporting increased over time or changes irregularly?”

Hypothesis; conservatism in financial reporting among Iranian firms has increased over time.

3. Research methodology

In this section, we discuss issues relating to the methodology in this paper and the model we use for testing our hypothesis. Next part is dedicated to the measurement of our main variables.

Totally, direct measurement of conservatism is not possible and it’s needed to use proxy in order to modify it to an objective and measurable value. Researchers use three types of measures to assess conservatism:

- Net asset measures,
- Earnings and accrual measures, and
- Earnings, stock returns relation measures

The methodology of this study is to test two types of measures as the proxies for conservatism; nonoperating accruals and MTB ratio. In summary, according to the literature when the sign of accumulated accruals is negative and its magnitude become bigger over time, implies increasing conservatism in financial reporting. Moreover, the increase of MTB

ratio over time could provide evidence for amplification of the degree of conservatism in reporting. Meeting consistent evidence among TSE's firms confirm our hypothesis, but the lack of evidence confirming this claim in Iran might be caused by various factors like Economic, social, cultural and many other factors which needs comprehensive research. The next sections explain these issues in more detailed.

This study's sample is comprised of firms listed in the TSE for the years 2003 to 2011. We exclude all holding financial and insurance firms (including banks) because this industry is regulated and is likely to have fundamentally different cash flow and accrual processes. We also eliminated firms with insufficient data to estimate dependant and independent variables. After adjusting for outliers, the total number in our sample is one hundred and sixteen (116) firms, which comprises one thousands and forty four (1044) firm-years observations. We collected conservatism data directly from annual reports. We obtained the financial and accounting data needed to compute earnings from the TSE reports made available on the web¹.

3.1 Research variables

Since there are several methods of measuring conservatism in financial literature, two proxies with

different types of measurement are used for the measurement of conservatism.

Nonoperating accruals

One measure is the sign and magnitude of accumulated accruals over time. This proxy for conservatism is based on the balance-sheet-oriented definition of conservative accounting. Accruals tend to reverse: periods in which net income exceeds (falls below) cash flows from operations are expected to be followed by periods with negative (positive) accruals. For firms in a steady state, we expect the cumulative amount of net income before depreciation and amortization to converge in the long run to cash flows from operations. A consistent predominance of negative accruals across firms over a long period is an indication of conservatism, while the rate of accumulation of net negative accruals is an indication of the shift in the degree of conservatism over time.

We use following formulas in to compute nonoperating accrual:

$$\text{Nonoperating Accruals} = \text{Total Accruals (before depreciation)} - \text{Operating Accruals}$$

$$\text{* Total Accruals (before depreciation)} = (\text{Net Income} + \text{Depreciation}) - \text{Cash Flows from Operations.}$$

$$\text{**Operating Accruals} = \Delta \text{Accounts Receivable} + \Delta \text{Inventories} + \Delta \text{Prepaid Expenses} - \Delta \text{Accounts Payable} - \Delta \text{Taxes Payable.}$$

The symbol Δ means the different between current year and previous year. In order to do in this way, it's required to

¹Website address; www.rdis.ir

have financial data of sample firms for 2002. This is exactly what we do in this study.

The market-to-book ratio

It should be emphasized at the outset that the absence of a generally accepted definition of conservatism makes it difficult to test its level through a single measure or even a number of measures. Our second measure of the degree of reporting conservatism relies on the relation between the market value and the book value of firms' equity as Feltham and Ohlson, 1995 use in their study first. To the extent that equity valuation by investors is based on the present value of future cash flows, the market-to-book ratio as well as earnings multiples would tend to be higher when accounting measurement is more conservative.

4. Findings

In order to analyze data in this study, we use descriptive and dispersion statistics and charts drawn to understand findings better.

4.1 Evidence of nonoperating accruals

As mentioned earlier, negative accumulation of non-operating accruals over time indicates conservatism in accounting. Extracting depreciation, amortization and operating accruals components from total accruals results in accruals consisting primarily of such items as loss and bad debt provisions (or their reversal), restructuring charges, the effect of changes in estimates, gains or losses on the sale of assets, asset write-downs, the accrual and capitalization of expenses, and the deferral of revenues and their subsequent recognition. To distinguish these accruals from the operating accruals, we refer to these remaining accruals as 'nonoperating' accruals. Note that although some of these accruals are dictated by GAAP, the timing or amount of most of them is subject to management discretion.

The accumulation of our first measure of conservatism, nonoperating accruals over time, is illustrated in table 2. It should be noted that we deflate all of the flow variables (total accruals and operational accruals) for each year by the total assets at the beginning of that year. Statistics based on this deflator are provided in below tables.

Table1. Descriptive results of operational accruals

year	mean	min	max	Standard deviation	median
2003	0.192	-0.242	0.951	0.227	0.162
2004	0.117	-0.477	2.407	0.291	0.083
2005	0.058	-3.081	0.463	0.359	0.095
2006	0.077	-0.344	1.198	0.211	0.047
2007	0.073	-0.433	1.355	0.213	0.045
2008	0.037	-5.821	3.039	0.630	0.067
2009	0.338	-0.377	14.455	1.742	0.064
2010	-0.201	-14.440	2.663	1.826	0.014
2011	0.061	-0.668	1.606	0.250	0.055

Table 2. Descriptive results of non-operational accruals

year	mean	min	max	Standard deviation	median
2003	-0.186	-1.123	0.961	0.318	-0.144
2004	-0.069	-1.851	1.492	0.372	-0.042
2005	-0.010	-1.413	2.179	0.374	-0.047
2006	0.564	-1.623	70.813	6.584	-0.021
2007	0.621	-1.692	60.114	5.778	-0.046
2008	0.077	-3.705	8.949	1.058	-0.047
2009	-0.317	-14.687	1.555	1.768	-0.070
2010	0.197	-2.552	14.407	1.833	-0.031
2011	-0.031	-0.606	0.799	0.195	-0.051

Table3. Descriptive results of total accruals

year	mean	min	max	Standard deviation	median
2003	0.006	-1.071	0.788	0.233	0.027
2004	0.049	-1.542	3.899	0.451	0.036
2005	0.048	-2.464	2.242	0.427	0.036
2006	0.641	-1.128	70.886	6.582	0.036
2007	0.694	-1.595	60.331	5.785	0.030
2008	0.113	-0.667	9.110	0.864	0.026
2009	0.021	-0.338	1.632	0.225	0.005
2010	-0.004	-0.356	0.454	0.122	-0.008
2011	0.031	-0.394	1.105	0.168	0.021

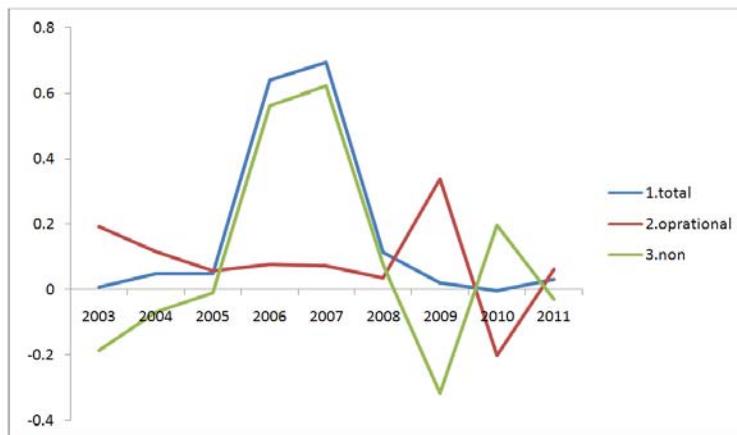


Fig1. Accumulation of accruals over time

Further insight into the changes of the accrual accumulation is provided in Fig. 1. An examination of the behavior of accrual components over time (shown in tables above and Fig. 1) reveals that the mean of the nonoperating accruals was variable in recent decades and don't have constant behavior over the investigated period. The finding of irregular and random changes of accumulation of nonoperating accruals is inconsistent with an increase in reporting conservatism over the last decade.

The line 2 and 3 depict the behavior over time of components of total accruals (other than depreciation), specifically 'operating' (or 'working capital') accruals and 'nonoperating' accruals. As shown in Fig1, it's clear that there is no regular change in the mean of nonoperating accruals and some years e.g. 2003 to 2005 it has negative sign, but in 2006 to 2008 it's positive. We can conclude that our first measure doesn't provide evidence to support the hypothesis of this paper.

Results analysis reveal that changes in accruals was quite heterogeneous and certain trend cannot be fined in it. This means that survey results are not consistent

with previous forecasts and contrary to expectations based on the claim of increasing conservatism in accounting (Givoly and Hyan, 2000), the degree of conservatism in financial reporting of TSE's firms doesn't change bullishly.

4.2 Evidence of MTB ratio

As indicated in section 4, a type of conservatism measure is based on market values of firms' equity. Our second measure of the degree of reporting conservatism, MTB ratio lies in this category. The relation between the market value and the book value of firms' equity is always of the interest of all users. The findings reported in the Table 4.

The M.B ratios observed in first years is somehow low and then change slightly to lower or upper level in two next years. The ratio rising from a level of about 5.6 in the 2005 to 38.6 during the 2006, increasing again to 74.7 and then 123.4, falling to over 36.0 by the end of the 2009, afterward it has sudden ascent to 125.6 in the 2010 and declining to 1.8 in 2011. These findings, which are consistent with finding of our first measure illustrated in Fig 2.

Table4. MTB ratio

year	mean	min	max	Standard deviation	median
2003	5.236	-0.334	38.665	171.6	2.792
2004	6.192	-0.334	64.895	883.8	3.189
2005	5.620	-0.334	130.830	12.865	3.393
2006	38.615	-0.0957	4098.094	380.216	2.056
2007	74.733	-0.099	8211.375	762.064	2.266
2008	123.401	-13.463	13999.500	1299.573	1.537
2009	36.267	-10.313	3961.406	367.627	1.196
2010	125.628	-20.747	14325.187	1329.865	1.479
2011	1.811	-139.987	15.267	13.621	2.018

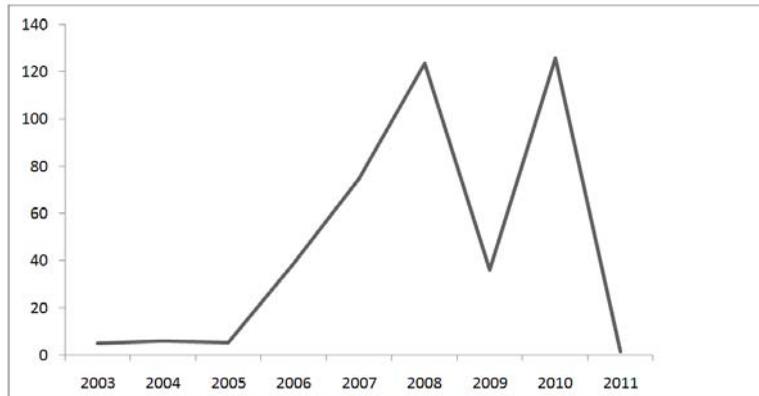


Fig 2. MTB ratio during last decade among sample firms

The figure 2 (as shown) indicates that the mean MTB ratio in each year of the examined period changed irregularly. So, the result doesn't reveal any uptrend in this measure of conservatism. These findings, which are inconsistent with those of Basu (1997) and Stober (1996), doesn't support the hypothesized increase in conservatism.

Analysis of the results obtained show that the second variable of conservatism in this paper (like the first one) has been oscillating during recent years and cannot confirm the hypothesis. However, this inconsistent observed variation in the MTB ratio over the past decade may reflect other factors which are irrelevant to accounting and financial reporting process e.g. macro economics factors, changes in the market expectations of growth, investment and etc. This result is clearly different from the results of Givoly and Hyan (2000) study among American firms. With this result, increasing conservatism in financial reporting is not confirmed over time and it might be appropriate and rational to seek other explanations for distinct results in Iran. Thus, the claim of increasing

conservatism in financial reporting is not accepted among Iranian firms.

5. Conclusion

There are some studies (like Givoly and Hyan, 2000) in other countries that devote to the substantial topic in accounting; "Has financial reporting become more conservative?", but there is no research in accounting literature about changing in conservatism among Iranian firms. So this paper provides evidence on the changes in the time-series properties of accruals and MTB in order to examine hypothesized increase in conservatism among Iranian firms.

In particular, the results of a series of tests are inconsistent with a trend of increased reporting conservatism. We call it inconsistent due to the other carried out studies in this subject indicate increasing of conservatism in accounting and financial reporting, but the findings of conservatism in financial reporting firms listed in TSE doesn't provide sufficient evidence for the same conclusion. It means that the results of this study with are

different from the results of some research of Givoly and Hyan (2000) about conservatism in financial reporting among American firms over the last four decades. Their research findings showed despite some inconsistency of financial reporting among U.S. firms, the claim of an increase in the degree of conservatism over time can be confirmed, but the evidence of this study showed no ascending or descending trends in both measures (nonoperational accruals and MTB ratio) as the proxy of conservatism.

Despite of several studies, some accountants and managers don't have the same idea about financial reporting and give argumentation about conservatism in financial reporting. We can use their reasoning to justify rejection of the hypothesis of increasing conservatism in any accounting system, alongside of specific status of Iran (e.g. economics, capital and financial markets, investor's expectation, inflation, etc).

Some of these arguments are: The evidence on conservatism is primarily 'circumstantial', though we examine more than one proxy of conservatism. It has often been suggested that the increase in the MTB ratios over time is due to the failure of conventional accounting to properly measure major value drivers, such as investment in intangibles like R&D, information technology, human resources, or maybe because of new accounting standards imposed for pension and post-retirement benefits costs and etc. It should be noted that since such information including pension costs were unavailable,

applying them in examination were not possible.

As described implicitly in the previous section about one of the limitations of this topic, there are some restrictions that can be expressed as follows;

- Unavailability to some relevant information such as pension costs might be one of the barriers in this study in order to verify the hypothesis. This item would be significant and impose large costs to firms.
- Regarding the impossibility to distinguish between influences of market (macroeconomic) factors from firm-specific factors; a definitive conclusion about the changes in MTB ratio is not possible.

Even though evidence of financial reporting among Iranian firms isn't consistent with increasing conservatism in accounting, but this topic is too extensive and due to its effects on accounting it's required to give more attention to it, especially in these areas ;

- Examine the relationship between conservatism and firm pension costs
- Changes in the degree of conservatism in different industries
- Comparison of conservatism in public and nongovernmental firms listed in TSE
- The degree of conservatism in developing countries

In fact, such incompatibilities are not limited merely to financial markets in Iran and according to research conducted in other countries, definitive verification of the claims through empirical research is not possible. A prominent example of such study belongs to Givoly and Hyan (2000) that despite of several proxies for conservatism, failed to confirm the claim of increasing conservatism in financial reporting according to all four proxies.

Thus due to the lack of an accepted definition of conservatism any definitive statement about the increasing conservatism in financial reporting is formidable but continues role of conservatism in accounting is undeniable and all groups of stakeholder agree with this matter. So, although the existent evidence doesn't support the idea of increasing conservatism in financial reporting, it's strongly recommended that all interest groups specially investors, creditors, researchers and regulatory bodies don't ignore this matter and to be more careful in their time-series analysis of financial reporting.

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