



Study Effect of Fluctuations in Macroeconomic Indicators on Unconditional Conservatism

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A B S T R A C T

Investors pay great attention to macroeconomic factors in their decisions about their investments. This fact shows that they seek to reduce systematic investment risks in order to earn expected returns. The present study aims to investigate the impact of macroeconomic factors (economic growth, liquidity and inflation) on unconditional conservatism in companies listed on the Tehran Stock Exchange (TSE) during the years 2006 to 2014. For this purpose, model of Beaver and Ryan (2000) has been used to measure conservative unconditional accounting. Data analysis is done through the combined panel data using random effects model. The results of this study show that the factors of economic growth, liquidity and inflation have positive and significant impact on unconditional conservatism. Therefore, an accurate knowledge about the effects of macroeconomic factors can help investors in correct decision-making; it can also help policy makers in giving direction to economic policies. Eventually, policy makers can determine the effects of these policies on company-specific factors.

Keywords: Economic Growth, Inflation, Liquidity, Unconditional Conservatism, Systematic Risk.

INTRODUCTION

Unconditional conservatism is a kind of conservatism that is not associated with accepted accounting standards (Gigler, Kanodia, Sapiro, & Venugopalan, 2009). This kind of conservatism shows the net book value of assets less than the real amount through pre-set accounting practices. This could be called balance sheet conservatism or prospective conservatism (Ball, Kothari, & Nikolaev, 2013; Ryan, 2006; Wang, Ó Hogartaigh, & van Zijl, 2008).

In the review of the situation of a company, investors and analysts don't consider the reduction of return on assets and return on equity as signs of weakness of the company; and they pay attention to the level of conservatism in a company (Ball, Robin, & Sadka, 2008; Lara, Osma, & Penalva, 2011). But it should be noted that in addition to factors within the company (company-specific factors), conservative accounting may be influenced by external factors and less attention is paid to external influencing factors like macroeconomic factors (Crawley, 2014). Therefore, in the present study, the main purpose is to investigate the effectiveness of some principal

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macroeconomic factors (economic growth, liquidity and inflation) on conservative unconditional accounting. This research seeks to answer the question whether the volatility of macroeconomic factors is effective on conservative accounting.

Systematic risk is related to developments and macroeconomic variables and this is not inevitable (Borio, 2014). Thus, firstly, the performance of stock market and its interaction with macroeconomic variables and secondly, understanding the relationship of financial markets with other economic sectors can be of great importance for economic policy makers, investors, lawmakers and standard setters (Hosseini, Ahmad, & Lai, 2011; Ochieng & Adhiambo, 2012; Singh, Mehta, & Varsha, 2011). And finally it can solve a problem in the society. So the impact of macroeconomic factors (economic growth, liquidity, inflation) on conservative accounting (company-specific factors) can help investors in risk assessment, particularly the systematic risk, conservatism level and a better decision-making. And analysts, experts and researchers should pay attention to this issue.

Unconditional Conservatism:

Unconditional conservatism means the tendency of accounting toward reporting the least book value of equity (Ball & Shivakumar, 2005).

The unusual amount of future profits is related with the differences between office and fair value of operating assets that is influenced by conservatism. Therefore, in recognition of operating assets, the level of conservatism influences the amount of unusual earnings. In cases of doubt between two or several methods of reporting, the method with the less favourable effect on rights of shareholders should be chosen (Feltham & Ohlson, 1995; Lim, 2014).

Macroeconomic Indicators:

In the present study, three selected indices of inflation, liquidity and economic growth will be used. These indices are the major macroeconomic indicators.

Economic Growth is one of macroeconomic variables and in the present study, we have focused on this factor and Gross Domestic Product Growth (Δ GDP) has been used as an index for it. Gross Domestic Product (GDP) is defined as the total monetary value of final manufactured products by economic units resident in the country in a certain period of time (quarterly or yearly). (Central Bank of the Islamic Republic)

Inflation is one of the familiar terminologies in the field of economics and everyday life issues. It is defined as permanent and indiscriminate increase in the general price level of product and services and finally, it leads to the reduction of purchasing power and economic disruption.

Liquidity is one of the tools of monetary policy of macroeconomics; this is the volume of currency in circulation. In the present study, it is equal to the volume of money and quasi-money. It is sometimes called the liquidity of private sector. A company with a better situation in liquidity have more ability to pay dividends.

BACKGROUND RESEARCH

Feltham and Ohlson (1995), conducted a study titled as 'Valuation and clean surplus accounting for operational and financial activities'. They concluded that key features of the assessment of companies are the continuation of abnormal operating profit, the growth of non-operating assets and conservatism in reporting operating assets. They also stated that if there is no continuity in unusual operating profits, the stock price of company depends only to the profit of financial assets, profit of operating assets and other information. The prediction of future earnings doesn't depend to current income items. So it is not possible to predict abnormal future profits

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without emphasizing on abnormal operating profit. And the stock price reflects only the profit information at the current time period (Feltham & Ohlson, 1995).

Beaver and Ryan (2000), conducted a study titled as 'Bias and interruptions in the book value and their effect on the ability of the ratio of book value to market value in the prediction of office efficiency of equity'. They found that the factors of bias and interruption of the ratio of book value to market value have very different implications for the patterns of analysis on office efficiency of equity. In their opinion, an important task for future researches in the field of accounting-based measures is the creation and improvement of more powerful methods to distinguish bias and interruptions (Beaver & Ryan, 2000).

Ball and Shivakumar (2005), investigated the relationship between accruals and conservatism in accounting in a study titled as 'The role of accruals in the asymmetric identification of cost and benefit. They provided a new factor for the measurement of conservatism by emphasizing on the correlation between cash flows and cash items. The results of this study showed that non-linear models of accruals that contain asymmetry in the identification of gains and losses provide better factors for the measurement of conservatism (Ball & Shivakumar, 2005).

Hassanzadeh and Kianvand. (2012), Conducted a study and investigated the impact of macroeconomic factors on stock returns in investment companies listed on the Tehran Stock Exchange. Their results indicated that non-oil exports and liquidity have positive impact on stock returns of investment companies; the results also showed that the indices of consumer price and imports have negative impact on stock returns (Hassanzadeh & Kianvand, 2012).

Crawley (2014), investigated the impact of accounting conservatism on macroeconomic factors and money supply in a study titled as 'The consequences of macroeconomic accounting'. The results indicated that economic policy makers might be able to enhance their decision process by a better understanding of the interaction of accounting estimates at the firm level with national economic accounts (Crawley, 2014).

METHODOLOGY

The statistical population of the present study consists of all companies listed on the Tehran Stock Exchange. This statistical population includes selected economic variables in Iran.

For sampling, companies with the following characteristics were selected:

1- In order to homogenize the samples in the years studied, the companies should have been listed on the Tehran Stock Exchange before 2006.

2- Their financial statements and other required data should be accessible for the period of 2006 to 2014.

3- These companies shouldn't have trading interruptions for more than six months during the determined period.

4- In order to increase the comparability, the fiscal period of these companies should finish at the end of the month of Esfand (March 20 of each year). The end of their fiscal year shouldn't have changed during the years 2006 to 2014.

5- The selected companies should not belong to the exchange industry of banks, credit institutions or other financial institutions, financial intermediations, financial investments and multifunctional companies.

6- Their shares should be traded during the period under investigation.

After applying the above conditions, 83 companies were selected as statistical samples. These companies were under investigation during the years 2006 to 2014.

The dependent Variable:

Unconditional conservatism (CONS-UCO) - For measuring this kind of conservatism, the model of Beaver and Ryan was used.

The index of unconditional conservatism = Book value of equity / Market value of equity * (-1)

Model 1: A higher amount shows a higher level of conservatism.

Macroeconomic Variables as Independent Variables:

Three effective variables in the present study are inflation, liquidity and Gross domestic product (GDP). The provided statistics by central bank and also the website of Tehran Stock Exchange were used for measuring these variables. And two variables of sales growth and profitability were selected as control variables. According to these studies, it is expected that companies with higher profitability and sales growth have more tendency for using conservative accounting.

Introducing the Research Equation:

In the present study, for testing hypotheses, according to the model of unconditional conservatism, and in order to have a more accurate investigation and examine the effect of each variable, the equation of research is presented as following:

$$INDEX\ CONSUNCO_{it} = f(GDP_{it}, M2_{it}, RP_{it}, Pr_{it}, GS_{it}) \quad i = 1, \dots, 83 \quad , \quad t = 2006, \dots, 2014$$

In this equation, INDEX CONSUNCO shows unconditional conservatism index, Gross Domestic Product (without oil), liquidity, sales growth, and profitability and inflation rate. In this equation, the variables of liquidity and inflation rate were investigated logarithmically.

RESULT

For a better identification of the nature of the investigated statistical population of the present study and also a better familiarisation with research variables, before data analysis, it is necessary to describe these data. Descriptive statistics means describing and explaining the key features of data.

Table 1. The Results of the Descriptive Statistics

variables	mean	median	max	min	Standard deviation	skewness
INDEX CONSUNCO	-0.603	-0.536	5.694	-3.351	0.732	2.696
GDP	-0.355	0.0	3.9	-6.1	2.897	-0.638
RP	2.922	2.912	3.546	۲/۳۷۹	0.4	0.136
M2	12.626	12.594	13.569	11.762	0.582	0.178
GS	0.199	0.153	7.705	-0.865	0.466	6.439
Pr	0.135	0.117	0.833	-0.448	0.142	0.47

Source: Research Calculations

For testing data reliability, unit root test of Levin, Lin and Chu was used.

Table 2. The Results of Test Levin, Lin and Chu

variables	Test statistics	probability	Intercept and trend situation	stationary
INDEX CONSUNCO	-8.198	0.001	whit intercept and no trend	I(0)
GDP	-16.644	0.001	whit intercept and no trend	I(0)
RP	-20.856	0.001	whit intercept and trend	I(0)
GS	-9.145	0.001	whit intercept and no trend	I(0)
Pr	-7.806	0.001	whit intercept and no trend	I(0)
M2	-2.838	0.002	whit intercept and trend	I(0)

Source: Research Calculations

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According to table 2, it can be stated that the H_0 is rejected in all variables with the possibility of 95% and it represents their stationary in the level. Therefore, using combined data method is approved.

For determining the effect of different factors on the used model in panel data, various tests were used. The most current of these tests are Chow test to use fixed effect model opposite the model to estimate combined data (POOL), Hausman test for using fixed effects model opposite random effects model and LM test for using random effects model opposite POOL model. Therefore, it is possible to determine the final model that is shown in table 3, by using the tests of Chow, Brush-Piguen and Hausman.

Table 3. The Results of Diagnostic Tests

Tests	Cross-section F	Results of tests
chow	5.2	Fixed effects
Breusch-pagan	64.55	Random effects
Hausman	1.19	Random effects
Final model	One-sided panels with random effects	

Source: Research Calculations *Probability (0/95)

In the present study, after the determination of the final model, heterogeneity, variance and autocorrelation tests were conducted. After fixing the problems of autocorrelation and heterogeneity of variance in STATA13 software, it will be possible to determine the final results of estimation.

Table 4. The Results of Final Estimate

variables	Coefficients	probability
Δ GDP	0.022	0.001
LOGRP	0.132	0.001
LOGM2	0.07	0.006
GS	0.047	0.049
Pr	0.136	0.051
C	-1.834	0.001

Source: Research Calculations

As it can be seen in table 4, in the above equation, the impact of independent variables of Gross Domestic Product (without oil), liquidity, sales growth, profitability and inflation was significant in the level of 90%.

CONCLUSION

The obtained results from testing the first hypothesis showed that there is a direct relationship between the variable of Gross Domestic Product (GDP) and the index of unconditional conservatism. It can be inferred that the increase of profit in companies will also increase the market value of equity and Gross Domestic Product (GDP). As a result, the distance between market value and book value will be greater and it will finally lead to the increase of unconditional conservatism. So the first hypothesis of research is approved. The obtained results from testing the second hypothesis showed that the variable of liquidity has a positive and significant impact on the index of unconditional conservatism. It can be inferred that the increase of liquidity in the society will also increase the demand of purchase and earnings of companies and it finally leads to the increase of the market value of equity. As a result, the ratio of book value to market value that is multiplied in -1 to obtain a direct ratio of unconditional conservatism will also increase. So the second hypothesis of research is also approved. The obtained results from testing the third hypothesis showed that there is a direct relationship between the indexes of inflation with

the index of unconditional conservatism. It can be easily argued that the increase of inflation will lead to the increase of the value of monetary assets and in the following, the market value of equity will also increase. And eventually, it will lead to the increase of unconditional conservatism.

Finally, it can be said that the findings of the present study are in contradiction with FASB views based on which, conservatism limits the information role of financial statements in the stock market. According to the results of hypotheses, it can be concluded that applying a degree of conservatism can be useful.

Research Suggestions:

Economic growth, liquidity and inflation rate are effective in accounting of unconditional conservatism. Therefore, paying attention to the relationship between macroeconomic factors and unconditional conservatism can help investors and analysts (who pay attention to the exact procedures of accounting conservatism) and policy makers (in applying economic policies).

This study showed that conservatism can have important benefits. Great attention should be paid to these important benefits and procedures of conservatism. If lawmakers and standard setters in opposition to conservatism and those who have criticized the conservative accounting make effort to remove it without understanding the benefits of conservatism, some standards will be created that are seriously harmful for financial reporting.

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