



LESSONS FROM FINANCIAL CRISIS: HAS ACCOUNTING IN CENTRAL AND EASTERN EUROPE BECOME MORE CONSERVATIVE?

Slavko Sodan^a, Zeljana Aljinovic Barac^b, Tina Vuko^c

^a PhD student. MA, University of Split, Faculty of Economics, Cvite Fiskovića 5, Split, Croatia, ssodan@efst.hr, Teaching Assistant.

^b Associate Professor. PhD, University of Split, Faculty of Economics, Cvite Fiskovića 5, Split, Croatia, zbarac@efst.hr.

^c Assistant Professor. PhD, University of Split, Faculty of Economics, Cvite Fiskovića 5, Split, Croatia, tklepo@efst.hr.

ARTICLE INFO

Keywords:

- Accounting conservatism
- Financial crisis
- Earnings quality
- Financial reporting

ABSTRACT

Recent change to a fair-value-based accounting system portends shift from traditional conservative accounting and is often considered to be one of the factors that partially contributed to the ongoing financial crisis. The main aim of this paper is to examine the level of conservatism prior and during financial crisis. Empirical analysis is conducted on the sample of listed companies from Central and Eastern Europe using panel data analysis techniques. Obtained results suggest that level of conservatism is even lower during the financial crisis than before the crisis. These findings could be of interest to accounting standard setters and regulators in the process of financial reporting quality improvement.

Reference to this paper should be made as follows: Sodan S, Aljinovic Barac Z, Vuko T, . 2013. Lessons from financial crisis: Has accounting in central and eastern europe become more conservative?, *Ekonom-ska istraživanja – Economic Research Special Issue* 2013

I. INTRODUCTION

The global financial crisis that began in 2007-2008 has had a great impact on the global economy. Moreover, it has also drawn special attention to the role of financial reporting in the years of crisis and in the periods immediately preceding the crisis. In particular, many commentators, researchers and analysts blame recent process of changes in fundamental accounting measurement paradigm for amplifying the crisis and for causing financial collapse.¹ Namely, since the end of 20th century the conservative, historical cost accounting paradigm has been replaced by the fair value accounting paradigm.

When analyzing financial reporting in period of financial crisis, it is essential to investigate how financial reporting fulfills its purpose. Accounting information has two main roles: informativeness and stewardship. Taken together, evidence from the previous empirical research suggests that recent implementation of fair value accounting has actually increased level of informativeness of accounting information.² Although there is a large volume of literature exploring valuation role of financial reports prior and during financial crisis, there has been a lack of debate and research about stewardship objective of financial accounting during financial crisis.

The stewardship objective of accounting arises from separation between ownership and management in public companies. Namely, because of possible conflict of interests between managers and owners, stewardship function of financial reporting is to constrain management to act in the shareholders' interests.³ An important instrument of stewardship and corporate governance is accounting conservatism and principle of prudence. Conservatism prevents managers from being overly optimistic in reporting earnings and consequently aims at promoting stewardship. Also, asymmetric timeliness of earnings, well known as conditional conservatism is frequently used as proxy for the stewardship-orientation of financial accounting information.⁴ Purpose of this paper is to analyze the stewardship role of accounting information in periods before and during the financial crisis.

This paper provides evidence of different level of accounting conservatism before and during the period of crisis. Empirical research is conducted on the sample of large, public, listed companies from seven Central and Eastern European countries: Bulgaria, Croatia, Poland, Romania, Russian Federation, Serbia and Slovenia for the period from 2002 to 2011.

Study contributes to the prior literature in the following ways. First, to the best of our knowledge this is the first empirical research that analyzes the level of accounting conservatism

¹ E.g. Thomas J. Linsmeier, "Financial reporting and financial crisis: The case for measuring financial instruments at fair value in the financial statements," *Accounting horizons* 25, no.2 (2011); John C. Heaton and others, "Is mark-to-market accounting destabilizing? Analysis and implications for policy," *Journal of Monetary Economics* 57, no.1 (2010); Christian Laux and Christian Leuz, "The crisis of fair-value accounting: Making sense of the recent debate," *Accounting, organizations and society* 34, no.6 (2009); Franklin Allen and Elena Carletti, "Mark-to market accounting and liquidity pricing," *Journal of Accounting and Economics* 45, no.2 (2008); Robert Boyer, "Assessing the impact of fair value upon financial crises," *Socio-Economic Review* 5, no.4 (2007).

² Wayne R. Landsman, "Is fair value accounting information relevant and reliable? Evidence from capital market research," *Accounting and Business Research* 37, sup. 1 (2007): 19; Joerg-Markus Hitz, "The decision usefulness of fair value accounting – a theoretical perspective," *European Accounting Review* 16, no.2 (2007): 325; Mary E. Barth, "Global financial reporting: Implications for US academics," *The Accounting Review* 83, no.5 (2008): 1165.

³ Ross L. Watts and Jerold L. Zimmerman, "Positive accounting theory: a ten year perspective," *Accounting review* (1990).

⁴ Joachim Gassen, "Are stewardship and valuation usefulness compatible or alternative objectives of financial accounting?," (working paper, SSRN, 2008): 6.

as measure of stewardship in periods before and during the global financial crisis started in 2007-2008. Also, previous research about conservatism is mostly limited to market-oriented common law countries and this paper is focused on the sample of companies from code law bank-oriented countries of Central and Eastern Europe. Moreover, recent studies emphasize the importance of allowing for firm heterogeneity in measuring accounting conservatism. Therefore, this paper uses panel data analysis methodology as it is more appropriate for cross-sectional time series structure of the data. Results and conclusions from this research could be of interest not only to academics but also to standard setters and regulators in the process of improvement of financial reporting quality.

The rest of the paper proceeds as follows. Section 2 provides a theoretical background for the research. Brief summary of previous research on this topic and hypothesis development are presented in section 3. Section 4 describes the sample, data and research design. Section 5 presents main empirical results and paper ends with concluding remarks.

II. THEORETICAL BACKGROUND

The use of fair value accounting as the measurement attribute in accounting standards has significantly increased in recent time, along with evolution of financial markets and development of complex financial instruments. Fair value accounting usually stands for reporting assets and liabilities in balance sheet at market values and recognizing changes in fair values as gains or losses in income statement. However, in response to the credit crunch which began in 2007-2008, financial institutions have criticized fair value accounting that fair value losses are misleading because they are temporary and will reverse as markets return to normal. Additionally, they have pointed that fair values are difficult to estimate and thus unreliable. Moreover, reported losses have adversely affected market prices yielding further losses and increasing overall risk of financial system.⁵ Furthermore, in years preceding the crisis, reporting of immediate fair value gains has inflated financial profits and facilitated more subprime lending, consequently increasing housing bubble and triggering recession.

In context of financial crisis, Pinnuck⁶ emphasizes that credit market for subprime mortgages may not have expanded as quickly if companies had used more conservative accounting approaches to constrain managers in banks making excessive loans. Namely, conservative accounting makes it difficult for managers to make excessive loans, by introducing downward bias into retained earnings. Thus, Pinnuck⁷ concludes that an accounting system that requires timely recognition of losses, but that discourages recognition of unrealized gains (which fair value accounting encourages) could be a way forward. Accordingly, Watts and Zuo⁸ have documented that US companies with more conservative financial reporting experienced less negative crisis effects on companies' value.

⁵ Stephen G. Ryan, „Fair value accounting: understanding the issues raised by the credit crunch,“ (working paper, White paper for the Council of Institutional Investors, New York University Stern School of Business, 2008): 4.

⁶ Matt Pinnuck, „A Review of the role of financial reporting in the global financial crisis,“ *Australian Accounting Review* 22, no.1 (2012): 2.

⁷ *Ibid.*, 10.

⁸ Ross L. Watts and LuoZuo, „Accounting Conservatism and Firm Value: Evidence from the Global Financial Crisis,“ (MIT Sloan Research Paper 4941-11, 2012).

Basu⁹ defines conservatism as accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements. In accordance with principle of prudence, conservative accounting system recognizes potential decreases in income or assets well before they are realized, but postpones the recognition of income increase until it is realized or is sufficiently certain. Therefore, Basu expects that reported earnings will respond more completely or quickly to negative shocks on value of company (i.e. bad news) than to positive shocks (i.e. good news).

Kothari et al.¹⁰ point out three most important aspects of conservatism in reducing agency problems between shareholders and managers. First, as managers' compensations are related with current performance, they are reluctant to report bad news. Conditional conservatism introduces obligation for the management to recognize bad news as it becomes available even if it does not meet the objectivity and verifiability thresholds that otherwise apply. Second, timely loss recognition mitigates agency problems associated with managers' investments decisions. The ability to defer loss recognition provides managers an incentive to continue operating investments with negative net present values in order to avoid reported losses on sale or abandonment.¹¹ This agency problem is reduced by conditional conservatism. Third, by delaying bad news, managers could compensate themselves excessively, which implies significant cost for shareholders. On the other hand, application of conditional conservatism principle limits management overpayments.

It is important to make the clear distinction between conditional and unconditional conservatism in accounting. Conditional conservatism is often labeled as news-dependent, ex post conservatism or earnings conservatism because it reflects asymmetry and timeliness in incorporating good and bad news in accounting earnings. In conditional conservatism setting earnings are more sensitive in reflecting publicly available bad news than good news. Examples of conditional conservatism include impairment accounting for long-term tangible assets or lower of cost or market accounting for inventory. Contrary to conditional conservatism, unconditional conservatism refers to low earnings and low book values regardless of economic outcomes. Amortization of long-term assets at a rate above the expected economic amortization rate can be taken as an example of unconditional conservatism.¹² The key difference between conditional and unconditional conservatism is that unconditional conservatism systematically understates the book value of assets due to predetermined accounting policies and independent of future circumstances. In contrast to conditional conservatism, Ball and Shivakumar¹³ argue that unconditional conservatism is inefficient or at best neutral in compensation contracting and corporate governance.

This paper is focused on conditional conservatism because it is considering that it improves the usefulness of accounting information, especially in the context of stewardship role of accounting and corporate governance.

⁹ SudiptaBasu, "The conservatism principle and the asymmetric timeliness of earnings," *Journal of accounting and economics* 24, no.1 (1997): 4.

¹⁰ S. P. Kothari, KarthikRamanna and Douglas J. Skinner, "What Should GAAP Look Like?," (MIT Sloan School of Management Working Paper 4740-09, Cambridge, 2009): 24.

¹¹ Ray Ball and LakshmananShivakumar, "Earnings quality in UK private firms: comparative loss recognition timeliness," *Journal of accounting and economics* 39, no.1 (2005): 90.

¹² Stephen G. Ryan, "Identifying conditional conservatism," *European accounting review* 15, no.4 (2006): 4.

¹³ Ray Ball and LakshmananShivakumar, *op. cit.*

III. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Since Basu¹⁴ introduced the concept of earnings conservatism, it has become the subject of frequent empirical research in accounting. There is a variety of different measures of conservatism in existing accounting literature. Wang¹⁵ summarizes the most frequently used measures of conservatism: Basu's¹⁶ asymmetric timeliness of earnings measure; Ball and Shivakumar's¹⁷ asymmetric-cash-flow-to-accruals measure; Penman and Zhang's¹⁸ hidden reserves measure; Givoly and Hayn's¹⁹ negative accruals measure; other measures (the Market-to-Book ratio, earnings persistence measure, VAR based measure, skewness of earnings, etc.).

Basu's reverse earnings-return regression is currently the most frequently employed measure of accounting conservatism in the accounting literature and has the greatest impact on the literature.²⁰ Basu proved that, because of the conservative bias in accounting, negative stock returns, which reflect downward adjustment in economic income, have a higher association with earnings than positive stock returns, i.e. upward adjustment in economic income. Therefore, conservative accounting reflects economic losses in earnings faster than economic gains. Basu also found evidence that conservative principles in accounting cause asymmetric persistence of positive and negative earnings changes. Namely, more persistence means that less current value relevant news is reported in current earnings and more of it will be reported in future earnings. Consequently, conservatism results in the lower persistence of earnings in bad news periods relative to good news periods.²¹

Many empirical studies have tried to quantify the extent of accounting conservatism and to identify the main benefits of conservatism. Watts²² concludes that existing evidence suggests how accounting conservatism is the most consistent with contracting or litigation explanations and in less extent consistent with tax and regulatory explanations. In accordance with these explanations, the majority of papers find that earnings conservatism varies across companies' characteristics and economic contexts.²³ According to Ryan²⁴, examined companies' characteristics mostly include: high-tech versus low-tech companies; board composition, public versus private companies; auditor size; US cross-listing by foreign companies; the extent of earnings management; company size; etc. Furthermore, the economic contexts most studied are: the quarters of the fiscal year and countries.²⁵ However, there are only few prior studies exploring the impact of business cycle on earnings conservatism.

¹⁴ Sudipta Basu, op. cit.

¹⁵ Richard Zhe Wang, "Accounting conservatism" (PhD diss., Victoria University of Wellington, 2009).

¹⁶ SudiptaBasu, op. cit.

¹⁷ Ray Ball and LakshmananShivakumar, op. cit.

¹⁸ Stephen H. Penman and Xiao-Jun Zhang, "Accounting conservatism, the quality of earnings, and stock returns," *The Accounting Review* 77, no.2 (2002).

¹⁹ Dan Givoly and Carla Hayn, "The changing time-series properties of earnings, cash flows and accrual: Has financial reporting become more conservative?," *Journal of Accounting and Economics* 29, no.3 (2000).

²⁰ Richard Zhe Wang, op. cit.

²¹ SudiptaBasu, op. cit.

²² Ross L. Watts, "Conservatism in accounting part I: Explanations and implications," *Accounting Horizons* 17, No. 3 (2003a).

²³ Stephen G. Ryan, op.cit.

²⁴ Ibid.

²⁵ Ibid.

Khurana et al.²⁶ have found evidence that companies exhibit less conditional conservatism during expansionary periods and argue that penalty for reporting bad news is greater when economy is expanding. Therefore, companies have greater incentives to delay recording bad news during the expansion of economy. Jenkins et al.²⁷ have performed similar research on the sample of Computat companies in period from 1980 to 2003 and also have demonstrated that the conservatism is actually higher during economic contractions. They have provided a number of key explanations for these empirical results. First, securities litigation typically occurs in period of economic declines and litigation risk is one of the most important factors of demand for conservative accounting.²⁸ Second, the threat of increased regulatory scrutiny during the period of financial crisis motivates the reporting of conservative accounting numbers. Third, the shift from internal to external sources of financing during recession should cause an increase in demand for more conservative accounting information.

However, several studies that have investigated the impact of 1997 Asian crisis on earnings conservatism have found evidence contrary to the findings of Khurana et al.²⁹ and Jenkins et al.³⁰. Research of Vichitsarawong et al.³¹ and Gul et al.³² report that accounting conservatism in East Asian countries is lower during the crisis period compared to normal economic periods. They assume that companies facing the financial crisis are under pressure to convey more positive information to investors in order to reduce the negative impact of the crisis.

To summarize, there is mixed evidence from previous research regarding impact of business cycle on accounting conservatism and evident lack of research regarding the effects of 2007-2008 global financial crisis on conservatism. Also, the majority of prior studies about conditional conservatism are performed in common law countries such as US, United Kingdom or Australia. Giner and Rees³³ and Lara et al.³⁴ state that level of conservatism is significantly different between code law and common law countries. There is generally a lack of research about accounting conservatism in transitional economies of Central and Eastern Europe, but some evidence can be

²⁶ Inder Khurana, Xiumin Martin, Raynolde Pereira and K. K. Raman, „Economic state-varying incentives and timely recognition of economic losses,” (Working paper, University of Missouri – Columbia, 2006).

²⁷ David s. Jenkins, Gregory D. Kane and Uma Velury, „Earnings conservatism and value relevance across the business cycle,” *Journal of Business Finance & Accounting* 36, no.9 & 10 (2009).

²⁸ Ross L. Watts, op. cit.; Ross I. Watts, „Conservatism in accounting part II: Evidence and research opportunities,” *Accounting Horizons* 17, No. 4 (2003b); Sudibta Basu, op. cit.; Ray Ball, S.P. Kothari and Ashok Robin, „The effect of international institutional factors on properties of accounting earnings,” *Journal of Accounting and Economics* 29 (2000); Xinrong Qiang, „The effects of contracting, litigation, regulation, and tax costs on conditional and unconditional conservatism: Cross-sectional evidence at the firm level,” *The accounting review* 82, No.3 (2007)

²⁹ Inder Khurana, Xiumin Martin, Raynolde Pereira and K. K. Raman, op.cit.

³⁰ David s. Jenkins, Gregory D. Kane and Uma Velury, op.cit.

³¹ Tahnyaluk Vichitsarawong, Li Li Eng and Gary K. Meek, „The impact of the Asian financial crisis on conservatism and timeliness of earnings: Evidence from Hong Kong, Malaysia, Singapore, and Thailand,” *Journal of International Financial Management and Accounting* 21, No.1 (2010).

³² Ferdinand A. Gul, Bin Srinidhi and Tony Shieh, „The Asian financial crisis, accounting conservatism and audit fees: Evidence from Hong Kong,” (Working paper, City University of Hong Kong, 2004).

³³ Begona Giner and William Rees, “On the asymmetric recognition of good and bad news in France, Germany and the United Kingdom,” *Journal of Business Finance & Accounting* 28, No. 9-10, (2001).

³⁴ Juan Manuel Garcia Lara, Beatriz Garcia Osmá and Araceli More, “The effect of earnings management on the asymmetric timeliness of earnings,” *Journal of Business Finance & Accounting* 32, No. 3-4 (2005).

found in studies of Kowalczyk³⁵ and Martikainen and Tilli³⁶. On the other hand, Jindrichovska and McLeay³⁷ did not find any proof for the existence of conservative financial reporting in the Czech Republic.

Based on the theoretical arguments and empirical evidence presented earlier, it is assumed that level of conditional conservatism should be lower during periods of economic decline in comparison to periods of expansions for companies in Central and Eastern Europe. Our expectations differ from findings of Khurana et al.³⁸ and Jenkins et al.³⁹. Namely, we anticipate that higher litigation risk and increased regulatory scrutiny during the period of crisis will not be significant factors of conservatism for companies in transitional bank-oriented countries of Central and Eastern Europe due to undeveloped capital market mechanisms. Giner and Rees⁴⁰ also stress that in the less litigious European environment, litigation explanations for conservatism demand may carry less weight. Thus, following the arguments of Vichitsarawong et al.⁴¹ and Gul et al.⁴², we assume that companies in crisis will be under higher pressure to communicate positive information to investors in order to reduce the negative effects of the crisis. Managers will tend to be more aggressive in reporting good news and delay recognition of bad news. Consequently, level of conditional conservatism is expected to be lower than before the crisis.

IV. RESEARCH DESIGN

This section describes the sources of empirical data, variables measurement and estimation procedures in testing the relation between level of conditional conservatism and business cycle. Performed research is based on the hypothesis that companies in financial crisis will not show any evidence of conservatism in contrast to the companies in the period before the crisis.

A. Sample selection

Empirical research is conducted on the sample of companies from seven Central and Eastern European countries: Bulgaria, Croatia, Poland, Romania, Russian Federation, Serbia and Slovenia, covering the period from 2002 to 2011. Only large, public, listed companies are selected in order to provide sample homogeneity. Namely, previous research has found significant differences in level of conservatism between public and private companies⁴³ and between different sizes⁴⁴ of companies. Data for the research is collected from Worldscope database. Banks, investment funds and other financial institutions are not included in the sample because of the asset structure differences. The final sample consists of total 1,426 company-year observations. Detail structure of selected sample by 7 Central and Eastern European countries is presented in the Table 1.

³⁵ Paulina Kowalczyk, „Accounting conservatism in transitional economies,” *Accountability* 45, (2009).

³⁶ Minna Martikainen and Sanna Tilli, „Reliability of earnings figures and conservatism in transitional economies,” (Working paper, Lappeenranta University of technology, 2007).

³⁷ Irena Jindrichovska and Stuart Mcleay, „Accounting for good news and accounting for bad news: Some empirical evidence from the Czech Republic,” *European Accountin Review* 14, No.3, (2005).

³⁸ InderKhurana, Xiumin Martin, Raynolde Pereira and K. K. Raman, *op.cit.*

³⁹ David s. Jenkins, Gregory D. Kane and Uma Velury, *op.cit.*

⁴⁰ BegonaGiner and William Rees, *op. cit.*, p.1300.

⁴¹ TahnyalukVichitsarawong, Li Li Eng and Gary K. Meek, *op. cit.*

⁴² Ferdinand A. Gul, Bin Srinidhi and Tony Shieh, *op. cit.*

⁴³ Ray Ball and LakshmananShivakumar, *op. cit.*

⁴⁴ Jieying Zhang, “Efficiency gains from accounting conservatism: Benefits to lenders and borrowers,” (working paper, MIT, 2004); Mozaffar Khan and Ross L. Watts, “Estimation and empirical properties of a firm-year measure of accounting conservatism,” *Journal of Accounting and Economics* 48, no.2 (2009).

TABLE 1 – SAMPLE STRUCTURE BY COUNTRIES

Country	Number of observations	Percent (% of total)
Bulgaria	51	3.58
Croatia	48	3.37
Poland	703	49.30
Romania	115	8.06
Russian Federation	428	30.01
Serbia	15	1.05
Slovenia	66	4.63
Total	1,426	100

Source: Estimated according to data from *Worldscope* (2012)

B. Model specification

To test the main hypothesis that companies in period of financial crisis apply lower level of conditional conservatism this study applies Basu⁴⁵ reverse earnings-return model specification and uses partition approach. According to Basu⁴⁶, stock prices reflect information received from sources other than current earnings and stock prices lead earnings by up to four years. Therefore, negative and positive annual stock returns are used as proxy for bad and good news, respectively. Namely, in an efficient market, stock returns reflect all public information affecting the value of equity during the period and thus provide a valid measure of economic shocks to company value.⁴⁷ Consequently, in reverse return-earnings regression, estimated slope coefficient on negative stock returns should be incrementally higher than on positive stock returns indicating the existence of earnings asymmetric timeliness and conditional conservatism. Incremental coefficient on negative return is often referred as asymmetric timeliness coefficient and it has been used in numerous researches as valid measure of conservatism.⁴⁸

The following standard Basu⁴⁹ model is used to test the level of earnings conservatism:

$$X_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} \times R_{it} + \varepsilon_{it} \quad (1)$$

⁴⁵ SudiptaBasu, op. cit.

⁴⁶ Ibid.

⁴⁷ Ray Ball, S. Kothari and Valeri Nikolaev, "On Estimating Conditional Conservatism," (working paper, Chicago Booth Research Paper 11-09, 2011): 3.

⁴⁸ For example: SudiptaBasu, op. cit.; Ray Ball, S.P. Kothari and Ashok Robin, op. cit.; Begona Giner and William Rees, op. cit.; Christos A. Grambovas, Begona Giner and Demetris Christodoulou, "Earnings conservatism: panel data evidence from the European Union and the United States," *Abacus* 42, No.3-4 (2006); Juan Manuel Garcia Lara, Beatriz Garcia Osma and Araceli More, op. cit.; Peter Pope and Martin Walker, "International differences in the timeliness, conservatism and classification of earnings," *Journal of Accounting Research*, Supplement (1999).

⁴⁹ SudiptaBasu, op. cit.

where, for company i in year t :

X_{it} = Earnings per share for company i in year t deflated by price per share at beginning of the year t ;

R_{it} = Buy-and-hold annual stock return for company i cumulated over year t inclusive of dividends;

D_{it} = Dichotomous variable which takes the value of 1 if stock return is negative and 0 otherwise;

ε_{it} = Error term.

For companies with conservative financial reporting, earnings should contain more timely information for "bad news". The implication is $\beta_3 > 0$. Namely, coefficient β_2 measures the association between earnings and positive returns and sum of coefficients β_2 and β_3 measures the association between earnings and negative returns. Thus, if earnings are conservative and respond timelier to bad news than to good news, it implies:

$$(\beta_2 + \beta_3) > \beta_2 \rightarrow \beta_3 > 0 \quad (2)$$

In order to examine the level of conditional conservatism in period before the financial crisis and during the crisis, the sample is partitioned into two subsamples. Period from 2002 to 2007 is defined as period before the crisis and period from 2008 to 2011 is defined as crisis period. Although National bureau of economic research⁵⁰ considers that the financial crisis started in 2007 in US, financial markets of Central and Eastern European countries did not feel the impact of financial crisis until September 2008⁵¹. However, negative effects of crisis have lasted over a longer time period than in Western European countries. Namely, in Eastern European countries during the 2010 and 2011 real GDP grows but other regional indicators such as inflation, exports, imports or trade balance still show the negative effects of crisis.⁵² Thus, the crisis period for Central and Eastern European countries are defined for period from 2008 to 2011.

V. EMPIRICAL RESULTS

A. Descriptive statistics

In the first part of the empirical research, descriptive analysis is conducted. Table 2 provides mean values, medians and standard deviations for variables used in this study. Mean value of deflated earnings are -0.23 for the full sample and 0.25 (-0.60) for the before crisis (during crisis) sample. Mean value of annual stock returns are 51.50 percent for the full sample and 93.42 (20.07) percent for the before crisis (during crisis) sample. As it can be seen from the table below, both earnings and returns have notably lower mean values during the crisis in comparison to the period before the crisis.

50 "US Business Cycle Expansions and Contractions", National bureau of economic research, accessed May 19, 2013. <http://www.nber.org/cycles.html>.

51 Sandor Gardo and Reiner Martin, "The impact of the global economic and financial crisis on central, eastern and south-eastern Europe: A Stock-taking exercise," ECB Occasional paper 114 (2010): 22.

52 Mihaela-Andreea Stroe, "Impact of the financial crisis upon eastern Europe countries: Still a problem for the economy of the region?" (paper presented at the CKS 2011 – Challenges of the Knowledge Society, Bucharest, April 15-16, 2011).

TABLE 2 – DESCRIPTIVE STATISTICS

<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>
Full sample			
X_{it}	-0.236	0,077	8.601
R_{it}	51.498	17.685	227.816
Before crisis			
X_{it}	0.247	0.091	1.581
R_{it}	93.415	36.840	324.130
During crisis			
X_{it}	-0.598	0.069	11.285
R_{it}	20.074	1.610	99.313

Source: Estimated according to data from *Worldscope* (2012)

Notes: X_{it} is the earnings per share for company i in year t deflated by the price per share at the beginning of the year; R_{it} is the buy-and-hold annual stock return for company i cumulated over year t inclusive of dividends.

Performed t-test proves that differences in mean values of earnings and returns during the crisis and before the crisis period are statistically significant as presented in Table 3.

TABLE 3 – DIFFERENCE OF MEANS BEFORE AND DURING THE CRISIS

<i>Variable</i>	<i>Mean – before the crisis</i>	<i>Mean – during the crisis</i>	<i>Difference</i>	<i>P- value</i>
X_{it}	0.247	-0.598	0.845	0.035
R_{it}	93.415	20.074	73.341	0.000

Source: Estimated according to data from *Worldscope* (2012)

Notes: X_{it} is the earnings per share for company i in year t deflated by the price per share at the beginning of the year; R_{it} is the buy-and-hold annual stock return for company i cumulated over year t inclusive of dividends. P-values are two-tailed from conducted t-test.

B. Earnings conservatism regression analysis

This study adopts panel-data methodology in order to estimate the level of earnings conservatism. Majority of previous research on earnings conservatism employs ordinary least squares estimator and treats observations as being serially uncorrelated with homoscedastic errors for companies across time. However, a more recent literature⁵³ points out that it is important to allow for com-

⁵³ Alan G. Huang, Yao Tian and Tony S. Wirjanto, "Re-Examining Accounting Conservatism: The Importance of Adjusting for Firm Heterogeneity," *Advances in Quantitative Analysis of Finance and Accounting* 10 (2012); Christos A. Grambovas, Begona Giner and Demetris Christodoulou, op. cit.

pany heterogeneity in measurement of conditional conservatism. Namely, pooled OLS regression model ignores company heterogeneity which could cause an omitted variable bias and consequently lead to an inaccurate conclusion about the extent of conditional conservatism.

Thus, in developing regression specification the starting point was the dynamic model with the lagged dependent variable. This model was estimated by employing Arellano-Bond difference GMM estimator. As lagged variable did not have significant explanatory power, the static model was considered to be more appropriate. Conducted specification tests (Hausman test $\chi^2=15.52$, $p=0.00$; incremental F test $F= 5.93$, $p=0.00$) suggest that fixed-effects estimator is the most appropriate panel method for the estimation of the research model.

Table 4 presents estimated results from fixed-effects model on the sample of companies before the crisis. Results provide evidence of conditional conservatism for the period before the financial crisis. The interactive slope coefficient β_3 is positive and significant at the 0.05 level which implies that earnings are more sensitive to negative returns ("bad news") than to positive returns ("good news"). Besides, for conditional conservatism to exist, it is not only necessary that incremental sensitivity of bad news with respect to good news (β_3) is significant, but also the total effect of bad news ($\beta_2 + \beta_3$) should be statistically significant.⁵⁴ Performed Wald test shows that the total bad news response coefficient ($\beta_2 + \beta_3$) is significantly positive as well ($F=8.18$, $p=0.00$).

TABLE 4 – ACCOUNTING CONSERVATISM BEFORE CRISIS (2002-2007)

Variable	Predicted sign	Coefficient	t-stat	P-value
Constant	?	0.324	6.48	0.000
$D_{it}(\beta_1)$?	-0.033	-0.20	0.842
$R_{it}(\beta_2)$?	-0.000	-0.24	0.812
$D_{it} * R_{it}(\beta_3)$	+	0.013	2.87	0.004
Number of obs	611			
F (3, 368)	5.61			
Prob>F	0.001			

Source: Estimated according to data from *Worldscope* (2012)

Notes: X_{it} is the earnings per share for company i in year t deflated by the price per share at the beginning of the year; R_{it} is the buy-and-hold annual stock return for company i cumulated over year t inclusive of dividends; D_{it} is a dichotomous variable which takes the value of 1 if stock returns are negative and 0 otherwise. P-values are two-tailed.

Results obtained on the sample of companies in period of financial crisis show no evidence of conditional conservatism, as predicted. Estimated results are shown in Table 5. P-value indicates that there is no statistically significant difference of coefficient β_3 value from zero. So, it can be concluded that companies in the period of financial crisis tend to be more aggressive in reporting good news and delay recognition of bad news. Thus, main hypothesis that level of conditional

⁵⁴ Juan Manuel Garcia Lara and Araceli Mora, „Balance sheet versus earnings conservatism in Europe,“ *European Accounting Review* 13, no.2 (2004).

conservatism will be lower during periods of economic decline in comparison to periods of expansions is supported by the empirical findings.

TABLE 5 – ACCOUNTING CONSERVATISM DURING CRISIS (2008-2011)

<i>Variable</i>	<i>Predicted sign</i>	<i>Coefficient</i>	<i>t-stat</i>	<i>P-value</i>
Constant	?	-0.430	-0.52	0.603
$D_{it} (\beta_1)$?	0.007	0.00	0.997
$R_{it} (\beta_2)$?	-0.000	-0.06	0.951
$D_{it} * R_{it} (\beta_3)$	0	0.007	0.26	0.794
Number of obs	815			
F (3, 513)	0.06			
Prob>F	0.981			

Source: Estimated according to data from *Worldscope* (2012)

Notes: X_{it} is the earnings per share for company i in year t deflated by the price per share at the beginning of the year; R_{it} is the buy-and-hold annual stock return for company i cumulated over year t inclusive of dividends; D_{it} is a dichotomous variable which takes the value of 1 if stock returns are negative and 0 otherwise. P-values are two-tailed.

VI. CONCLUSION

Based on a review of previous literature it can be concluded that there has been a lack of debate and research on stewardship objective of financial accounting during the global financial crisis that started in 2007-2008.

This paper uses earnings conservatism as proxy for the stewardship-orientation of financial accounting information and analyzes the impact of the financial crisis on earnings conservatism.

Results from empirical research suggest that companies have a tendency to be more aggressive in reporting good news and delay recognition of bad news during the financial crisis. That is, level of earnings conservatism is higher in the period before the crisis than during the crisis. Companies in financial distress are probably under pressure to report more positive information to investors in order to reduce the negative impact of the crisis. Accordingly, accounting information appears not to fulfill its stewardship role and to be less useful in making economic decisions related to contracting during the period of the crisis than before the crisis.

This research contributes to the literature in several ways. First, this seems to be the first empirical research that analyzes level of accounting conservatism in periods before and during the global financial crisis started in 2007-2008. Also, previous studies about conservatism are mostly limited to market-oriented common law countries contrary to the research in this paper. Moreover, recent studies stress the importance of using the adequate statistical methodology in measuring accounting conservatism. Therefore, this paper uses panel data analysis techniques as they are more appropriate for cross-sectional time series structure of the data. Results and conclusions from this research could be of interest not only to accounting researchers but also to standard setters and regulators in the process of improvement of financial reporting quality.

By summarizing the theoretical and empirical results, the following recommendations can be derived. First, standard setters and regulators should aim to define fair value accounting more precisely to avoid its abuse and creative accounting reporting practices. Second, future researchers should explore the impact of fair value accounting on severity of global financial crisis in more detail. Furthermore, future researchers should in particular focus on financial reporting quality in developing bank-oriented economies with underdeveloped and inactive markets.

VII. REFERENCES

- Allen, Franklin and Elena Carletti.** "Mark-to market accounting and liquidity pricing." *Journal of Accounting and Economics* 45, no.2 (2008): 358-378.
- Ball, Ray, S.P. Kothari and Valeri Nikolaev.** "On Estimating Conditional Conservatism." working paper, Chicago Booth Research Paper 11-09, 2011. <http://dx.doi.org/10.2139/ssrn.1758702>.
- Ball, Ray, S.P. Kothari and Ashok Robin.** "The effect of international institutional factors on properties of accounting earnings." *Journal of Accounting and Economics* 29 (2000): 1-51.
- Ball, Ray and Lakshmanan Shivakumar.** "Earnings quality in UK private firms: comparative loss recognition timeliness." *Journal of accounting and economics* 39, no.1 (2005): 83-128.
- Barth, Mary E.** "Global financial reporting: Implications for US academics." *The Accounting Review* 83, no.5 (2008): 1159-1179.
- Basu, Sudipta.** "The conservatism principle and the asymmetric timeliness of earnings." *Journal of accounting and economics* 24, no.1 (1997): 3-37.
- Boyer, Robert.** "Assessing the impact of fair value upon financial crises." *Socio-Economic Review* 5, no.4 (2007): 779-807.
- Gardo, Sandor and Reiner Martin.** "The impact of the global economic and financial crisis on central, eastern and south-eastern Europe: A Stock-taking exercise." *ECB Occasional paper* 114 (2010): 1-65.
- Gassen, Joachim.** "Are stewardship and valuation usefulness compatible or alternative objectives of financial accounting?." SSRN working paper, 2008. <http://dx.doi.org/10.2139/ssrn.1095215>.
- Giner, Begona and William Rees.** "On the asymmetric recognition of good and bad news in France, Germany and the United Kingdom." *Journal of Business Finance & Accounting* 28, No.9-10 (2001): 1285-1331.
- Givoly, Dan and Carla Hayn.** "The changing time-series properties of earnings, cash flows and accrual: Has financial reporting become more conservative?." *Journal of Accounting and Economics* 29, no.3 (2000): 287-320.
- Grambovas, Christos A., Begona Giner and Demetris Christodoulou.** "Earnings conservatism: panel data evidence from the European Union and the United States." *Abacus* 42, no.3-4 (2006): 354-378.
- Gul, Ferdinand, Bin Srinidhi and Tony Shieh.** "The Asian financial crisis, accounting conservatism and audit fees: Evidence from Hong Kong." working paper, City University of Hong Kong, 2004. <http://dx.doi.org/10.2139/ssrn.315062>.
- Heaton, John C and others** "Is mark-to-market accounting destabilizing? Analysis and implications for policy." *Journal of Monetary Economics* 57, no.1 (2010): 64-75.
- Hitz, Joerg-Markus.** "The decision usefulness of fair value accounting – a theoretical perspective." *European Accounting Review* 16, no.2 (2007): 323-362.
- Huang, Alan G. and Tony S. Wirjanto.** "Re-Examining Accounting Conservatism: The Importance of Adjusting for Firm Heterogeneity." *Advances in Quantitative Analysis of Finance and Accounting* 10 (2012): 193-224.

- Jenkins, David S., Gregory D. Kane and Uma Velury.** "Earnings conservatism and value relevance across the business cycle." *Journal of Business Finance & Accounting* 36, no.9 & 10 (2009): 1041-1058.
- Jindrichovska, Irena and Stuart Mcleay.** "Accounting for good news and accounting for bad news: Some empirical evidence from the Czech Republic." *European Accounting Review* 14, no.3 (2005): 635-655.
- Khan, Mozaffar and Ross L. Watts.** "Estimation and empirical properties of a firm-year measure of accounting conservatism." *Journal of Accounting and Economics* 48, no.2 (2009): 132-150.
- Khurana, Inder, Xiumin Martin, Raynolde Pereira and K. k. Raman.** "Economic state-varying incentives and timely recognition of economic losses." Working paper, University of Missouri – Columbia, 2006. <http://aaahq.org/AM2006/abstract.cfm?submissionID=467>.
- Kothari, S. P., Karthik Ramanna and Douglas J. Skinner,** "What Should GAAP Look Like?" MIT Sloan School of Management Working Paper 4740-09, Cambridge, 2009. <http://hdl.handle.net/1721.1/66935>.
- Kowalczyk, Paulina.** "Accounting conservatism in transitional economies." *Accountability* 45, (2009): 45-61.
- Landsman, Wayne R.** "Is fair value accounting information relevant and reliable? Evidence from capital market research." *Accounting and Business Research* 37, sup.1 (2007): 19-30.
- Lara, Juan Manuel Garcia and Araceli mora.** "Balance sheet versus earnings conservatism in Europe." *European Accounting Review* 13, no.2 (2004): 261-292.
- Lara Juan Manuel Garcia, Beatriz Osma and Araceli More.** "The effect of earnings management on the asymmetric timeliness of earnings." *Journal of business Finance & Accounting* 32, No.3-4 (2005): 691-726.
- Laux, Christian and Christian Leuz.** "The crisis of fair-value accounting: Making sense of the recent debate." *Accounting, organizations and society* 34, no.6 (2009): 826-834.
- Linsmeier, Thomas J.** "Financial reporting and financial crisis: The case for measuring financial instruments at fair value in the financial statements." *Accounting horizons* 25, no.2 (2011): 409-417.
- Martikainen, Minna and Sanna Tilli.** "Reliability of earnings figures and conservatism in transitional economies." Working paper, Lappeenranta University of technology, 2007. <http://www3.tse.fi/FI/yksikot/laitokset/jaaineet/lt/Documents/tutorial07/Tilli.pdf>.
- National bureau of economic research.** "US Business Cycle Expansions and Contractions", accessed May 19, 2013. <http://www.nber.org/cycles.html>.
- Penman, Stephen H. and Xiao-Jun Zhang.** "Accounting conservatism, the quality of earnings, and stock returns." *The Accounting Review* 77, no.2 (2002): 237-264.
- Pinnuck, Matt.** "A Review of the role of financial reporting in the global financial crisis." *Australian Accounting Review* 22, no.1 (2012): 1-14.
- Pope, Peter and Martin Walker.** "International differences in the timeliness, conservatism and classification of earnings." *Journal of Accounting Research, Supplement* (1999).

- Qiang, Xianrong.** "The effects of contracting, litigation, regulation, and tax costs on conditional and unconditional conservatism: Cross-sectional evidence at the firm level." *The accounting review* 82, no.3 (2007): 759-796.
- Ryan, Stephen G.** „Fair value accounting: understanding the issues raised by the credit crunch.“ working paper, White paper for the Council of Institutional Investors, New York University Stern School of Business, 2008, <http://www.ifrs.org/Current-Projects/IASB-Projects/Amendments-to-IFRS-7-Financial-Instruments-Disclosures/Exposure-Draft-and-Comment-Letters/Comment-Letters/Documents/CL66.pdf>.
- Ryan, Stephen G.** "Identifying conditional conservatism." *European accounting review* 15, no.4 (2006): 511-525.
- Stroe, Mihaela-Andrea.** "Impact of the financial crisis upon eastern Europe countries: Still a problem for the economy of the region?" Paper presented at the CKS 2011 – Challenges of the Knowledge Society, Bucharest, April 15-16, 2011.
- Vichitsarawong, Thanyaluk.** "The Impact of Asian Financial Crisis on Conservatism and Timeliness of Earnings: Evidence from Hong Kong, Malaysia, Singapore, and Thailand." *Journal of International Financial Management and Accounting* 21" no.1 (2010): 32-61.
- Watts, Ross L.** "Conservatism in accounting part I: Explanations and implications." *Accounting Horizons* 17, no.3 (2003a): 207-221.
- Watts, Ross L.** "Conservatism in accounting part II: Evidence and research opportunities." *Accounting Horizons* 17, no.4 (2003b): 287-301.
- Watts, Ross L. and Jerold L. Zimmerman.** „Positive accounting theory: a ten year perspective.“ *Accounting review* (1990): 131-156.
- Watts, Ross L. and Luo Zuo.** "Accounting Conservatism and Firm Value: Evidence from the Global Financial Crisis." MIT Sloan Research Paper 4946-11, 2012. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1952722&download=yes.
- Zhang, Jieying.** "Efficiency gains from accounting conservatism: Benefits to lenders and borrowers." working paper, MIT, 2004. <http://acctwkshop.cox.smu.edu/acctwkshop/W20042005/Z.pdf>.
- Zhe Wang, Richard.** "Accounting conservatism." PhD diss., Victoria University of Wellington, 2009.