UNIVERSITY OF SOUTHERN QUEENSLAND

EX ANTE EXPECTATIONS AND EX POST ASSESSMENT OF THE NATURE AND EXTENT OF EARNINGS MANAGEMENT IN THE MBE SETTING

A Dissertation submitted by

Camillo Lento, MSc., CA, CFE, HBComm.,

For the award of

Doctor of Philosophy

2011

Abstract

There are two main objectives of this research. First, this research investigates whether the relationship between the extent of earnings management and the abnormal return of firms that meet or beat earnings expectations (MBE) is moderated by the nature of the earnings management (opportunistic or informative). Second, this research investigates whether a belief revision process exists regarding the pricing of discretionary accruals. Specifically, this research examines whether the abnormal return is a function of the markets' ex ante expectation of the extent of earnings management at the earnings announcement date, and ex post assessment of the extent assessment of earnings management during the financial statement analysis period.

In relation to the first objective, the results reveal that the extent of earnings management has a negative (positive) relationship with the abnormal return when earnings management is likely opportunistic (informative). The discount (reward) to meeting or beating expectations is more significant when earnings management is more clearly opportunistic (informative). In addition, the market is shown to penalize firms more for the use of opportunistic earnings management than it rewards firms for the use of informative earnings management.

In relation to the second objective, the results reveal that the abnormal return is a function of the prior quarter discretionary accruals at the earnings announcement date and the current quarter discretionary accruals during the financial statement analysis period. Taken together, these results support a belief revision process occurring from the earnings announcement date to the financial statement analysis period as equity valuations change from being a function of prior quarter discretionary accruals to current quarter discretionary accruals. This is consistent with past literature that suggests that investors require time to

price earnings management into the abnormal return (Balsam, Bartov & Marquardt 2002; DeFond & Park 2001; Gavious 2007).

This research makes several contributions to the literature. Unlike past studies, this research does not assume that all firms that meet or beat expectations by one cent employ an opportunistic earnings management strategy. Rather, this research contributes to literature by testing whether the market differentiates between opportunistic and informative earnings management when awarding an abnormal return to firms that MBE.

A second contribution is in relation to the research design. This is the first known study to use an interaction variable to capture the non-linear relationship between the nature and extent of earnings management and the abnormal return. Utilizing a variable for the nature of earnings management, and examining the non-linear relationship between the nature and extent of earnings management contributes to the literature by offering a more robust test of the market pricing mechanism of earnings management.

A third contribution is the introduction of gross margin into the MBE setting. Anecdotal evidence clearly indicates that gross margin is a key metric; however, academic literature has yet to corroborate this assertion. These results suggest that gross margin is a key metric that is relied upon by the market when determining an abnormal return for firms that MBE. The fourth contribution, which is of significance to practice, is the introduction of a composite model that provides insight into whether a firm's earnings management is likely to be opportunistic or informative. This model has potential applications for investors as a tool to make investment decisions and avoid inefficient allocations of capital. The fifth contribution is the insight regarding the timing by which discretionary accruals are reflected in equity valuations. The impact of the extent of earnings management is shown to be revised from the earnings announcement date to the financial statement analysis period.

CERTIFICATION OF DISSERTATION

I certify that the ideas, results, analyses and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

________________________ ____________________

Signature of Candidate Date

ENDORSEMENT

__________________________ ____________________

Signature of Principal Supervisor Date

__________________________ ____________________

Signature of Associate Supervisor Date

ACKNOWLEDGEMENTS

I am greatly indebted to my Principal Supervisor, Professor Julie Cotter, and my Associate Supervisor, Professor Irene Tutticci, for their guidance and encouragement throughout the period of my candidature.

I would also like to acknowledge my family and friends for providing encouragement and support during my period of candidature.

I would like to thank the many institutions that helped fund my studies. Specifically, I am thankful to the University of Southern Queensland for the funding and administrative support provided to me as a PhD candidate.

In addition, I am grateful for both the financial and administrative support provided to me by Lakehead University, where I was employed. I would like to thank the Dean of the Faculty of Business Administration, Bahram Dadgostar, and many of the faculty members for all of their support and encouragement over my period of candidature.

Furthermore, I appreciate the financial support I received in the form of a PhD scholarship that was sponsored by Institute of Chartered Accountants of Ontario (ICAO), along with all of the opportunities afforded to me by the ICAO in order to provide financial assistance during my period of candidature.

My PhD has also benefited from the comments of seminar participants at the University of Southern Queensland, Lakehead University, the 2009 AFAANZ Doctoral Consortium, the 2010 CAAA CAR Conference Doctoral Colloquium, and the 2011 CAAA Annual Conference.

Table of Contents

1. INTRODUCTION 1
1.1. THE RESEARCH QUESTIONS 4
1.2. OBJECTIVES 4
1.3. CONTRIBUTIONS 5
1.4. MOTIVATIONS 7
1.5. DELIMITATION 9
1.6. OUTLINE OF THE RESEARCH 9

2. REVIEW OF THE PERTINENT LITERATURE 11
2.1. INTRODUCTION 11
2.2. EARNINGS MANAGEMENT 11
2.2.2. Opportunistic Earnings Management 13
2.2.2. Informative Earnings Management 15
2.2.3. Detecting Earnings Management 16
2.2.4 Summary of the Section's main Themes 20
2.3. MEETING OR BEATING EARNINGS EXPECTATIONS 21
2.3.1. The Meeting or Beating Expectations Phenomenon 21
2.3.2. Beating Expectations and Future Performance 22
2.3.3. The Premium to Meeting or Beating Analysts' Expectations 23
2.3.4. Summary of Section's main Themes 24
2.4. EARNINGS MANAGEMENT IN THE MBE SETTING 25
2.4.1. How does the Extent of Earnings Management impact the MBE Premium? 26
2.4.2. How does the Nature of Earnings Management impact the MBE Premium? 27
2.4.3. When is Earnings Management reflected in the MBE Premium? 29
2.4.4. Summary of Section's main Themes 32
2.5. SUMMARY OF CHAPTER'S MAIN THEMES 33

3. HYPOTHESIS DEVELOPMENT 36
3.1. INTRODUCTION 36
3.2. THEORETICAL FRAMEWORK 36
3.3. *EX ANTE* EXPECTATIONS OF EARNINGS MANAGEMENT 39
3.4. *EX POST* ASSESSMENT OF EARNINGS MANAGEMENT 41
3.5. SUMMARY OF CHAPTER'S MAIN THEMES 42

4. METHODOLOGY 43
4.1. INTRODUCTION 43
4.2. THE MBE SETTING 43
4.3. MEASURING THE DEPENDENT VARIABLE 44
4.3.1. Defining the Expected Return Proxy for the Abnormal Return 44
4.3.2. Defining the Event Window for the Earnings Announcement Date 46
4.3.3. Defining the Event Window for the Financial Statement Analysis Period 48
4.4. MEASURING THE INDEPENDENT VARIABLES 49
4.4.1. The Nature of Earnings Management 50
4.4.2. The Extent of Earnings Management 62
4.4.3. The Control Variables 69
4.3.4. Summary of Variable Measurement 71
4.5. RESEARCH DESIGN – TESTING THE HYPOTHESES 74
4.5.1. A Survey of the Models used in Similar Studies 74
4.5.2. Hypotheses 1 and 2 – Abnormal Returns at the Earnings Announcement Date 76
4.5.3. Hypothesis 3 – Abnormal Returns during the Financial Statement Analysis Period 80
4.6. SUMMARY OF CHAPTER'S MAIN THEMES 82

5. THE DATA **83**
5.1. Introduction 83
5.2. Data Sources 83
5.3. Sample Selection 84
5.3.1. Time Period Analysed *85*
5.3.2. Industry Classification and Exclusions *86*
5.3.3. Final Sample of Firm-Quarter Observations for Hypotheses Testing *88*
5.4. Meeting, Beating and Missing Expectations 90
5.4.1. The MBE Phenomenon *91*
5.4.2. Meeting or Beating Expectations in the Pre- and Post-Scandal Periods *94*
5.4.3. The MBE Premium *98*
5.5. The Modified Jones Model – First-stage Regression Summary Statistics 101
5.6. The Earnings Nature Score (ENS) 103
5.6.1. ENS Correlations *104*
5.6.2. Analysis of each ENS Component *105*
5.6.3. ENS and Firm Future Performance *110*
5.6.4. Conclusion on the ENS's ability to capture the Nature of Earnings Management *112*
5.7. Conclusion of main themes 113

6. ANALYSIS OF RESULTS **115**
6.1. Introduction 115
6.2. Hypotheses 1 & 2 - The Abnormal Return at the Earnings Announcement Date 115
6.2.1. Descriptive Statistics *115*
6.2.2. Correlations *117*
6.2.3. Regression Analysis *121*
6.2.4. Robustness Check 1 – Analysis of Average Returns *129*
6.2.5. Robustness Check 2 – Analysis with Current Quarter Discretionary Accruals *132*
6.3. Hypothesis 3 – The Abnormal return during the Financial Statement Analysis Period 135
6.3.1. Descriptive Statistics *135*
6.3.2. Correlations *136*
6.3.3. Regression Analysis *139*
6.3.4. Robustness Check 1 – Analysis with Prior Quarter Discretionary Accruals *146*
6.4. Additional Analysis 149
6.4.1. The Impact of Fourth Quarter Observations *149*
6.4.2. The Impact of the Pre- and Post-Enron Scandal Periods *153*
6.4.3. The Impact of the Dot Com Bubble *157*
6.5. Summary 160

7. CONCLUSIONS AND IMPLICATIONS **162**
7.1. Introduction 162
7.2. Conclusion about hypotheses 162
7.2.1. Hypothesis 1 .... *162*
7.2.2. Hypothesis 2 .... *163*
7.2.3. Hypothesis 3 .... *165*
7.3. Implications for theory 166
7.4. Implications for practice 168
7.5. Limitations 168
7.6. Future Research 171

REFERENCES **172**

List of Tables

TABLE 1 – PROXIES USED TO MEASURE THE ABNORMAL RETURNS IN PAST LITERATURE 45
TABLE 2 – STRENGTHS AND WEAKNESSES OF ALTERNATIVES TO JOINTLY EMPLOYING ENS COMPONENTS 61
TABLE 3 - EARNINGS MANAGEMENT MEASURES USED IN PAST STUDIES 63
TABLE 4 – SUMMARY OF VARIABLE MEASURES AND DESCRIPTIONS 72
TABLE 5 - TIME PERIODS ANALYSED BY PAST RESEARCH 85
TABLE 6 - SMALL INDUSTRIES EXCLUDED IN THE SAMPLE 87
TABLE 7 - SAMPLE SIZE USED FOR EMPIRICAL TESTS 87
TABLE 8 - LARGE INDUSTRIES INCLUDED IN THE SAMPLE 88
TABLE 9 – NUMBER OF OBSERVATIONS IN SAMPLE 89
TABLE 10 – DISTRIBUTION OF OBSERVATIONS BY YEAR 89
TABLE 11 – DISTRIBUTION OF EARNINGS SURPRISES 91
TABLE 12 – SUMMARY STATISTICS BY EARNINGS PER SHARE RELATIVE TO CONSENSUS FORECAST 94
TABLE 13 – DISTRIBUTION OF EARNINGS SURPRISES IN THE PRE, POST, AND SCANDAL ERAS 95
TABLE 14 – CUMULATIVE ABNORMAL RETURNS FOR FIRM THAT MET, BEAT, AND MISSED EXPECTATIONS 98
TABLE 15 – CUMULATIVE ABNORMAL RETURNS BY MAGNITUDE OF EARNINGS SURPRISE 100
TABLE 16 – DESCRIPTIVE STATISTICS OF THE COEFFICIENTS FROM THE FIRST-STAGE MODIFIED JONES MODEL REGRESSIONS 101
TABLE 17 – DISTRIBUTION OF FIRMS BY HIGH, MEDIUM, AND LOW ENS SCORE 103
TABLE 18 – CORRELATIONS BETWEEN ENS COMPONENTS, THE ENS, AND THE CAR 105
TABLE 19 – CAR FOR EACH COMPONENT OF THE ENS 107
TABLE 20 – DISTRIBUTION OF FIRMS BY GROSS MARGIN CHANGES 108
TABLE 21 – DISTRIBUTION OF FIRMS BY REVENUE SURPRISE 109
TABLE 22 – FUTURE OPERATING PERFORMANCE OF FIRMS BASED ON ENS SCORE 111
TABLE 23 - DESCRIPTIVE STATISTICS FOR DEPENDENT AND INDEPENDENT VARIABLES 116
TABLE 24 – PEARSON AND SPEARMAN CORRELATIONS FOR 1-DAY CAR & 3-DAY CAR AND INDEPENDENT AND CONTROL VARIABLES 119
TABLE 25 – VARIANCE INFLATION FACTORS FOR HYPOTHESIS 1 AND HYPOTHESIS 2 122
TABLE 26 – HYPOTHESIS 1 AND HYPOTHESIS 2 REGRESSION ESTIMATION WITH THE 1-DAY CAR 123
TABLE 27 – HYPOTHESIS 1 AND HYPOTHESIS 2 REGRESSION ESTIMATION WITH THE 3-DAY CAR 124
TABLE 28 – CAR FOR DIFFERENT COMBINATIONS OF ENS AND DACC LEVELS 127
TABLE 29 – THE ABNORMAL RETURN BY ENS AND DISCRETIONARY ACCRUALS 130
TABLE 30 – REGRESSION RESULTS DURING THE EARNINGS ANNOUNCEMENT DATE WITH CURRENT QUARTER DISCRETIONARY ACCRUALS 133
TABLE 31 - DESCRIPTIVE STATISTICS FOR DEPENDENT AND INDEPENDENT VARIABLES 135
TABLE 32 – CORRELATIONS FOR CAR (2, 17) & CAR (4, 17) AND INDEPENDENT AND CONTROL VARIABLES 137
TABLE 33 – VARIANCE INFLATION FACTORS FOR HYPOTHESIS 3 139
TABLE 34 – HYPOTHESIS 3 REGRESSION RESULTS DURING THE FINANCIAL STATEMENT ANALYSIS PERIOD 140
TABLE 35 – CAR FOR DIFFERENT COMBINATIONS OF ENS AND DACC_SURP LEVELS 142
TABLE 36 – REGRESSION RESULTS DURING THE FINANCIAL STATEMENT ANALYSIS PERIOD WITH PRIOR QUARTER DISCRETIONARY ACCRUALS 147
TABLE 37 – HYPOTHESIS 2 REGRESSION ON SUBSETS OF 4TH QUARTER VERSUS ALL OTHER QUARTERS OBSERVATIONS 150
TABLE 38 – HYPOTHESIS 3 REGRESSION ON SUBSETS OF 4TH QUARTER VERSUS ALL OTHER QUARTERS OBSERVATIONS 151
TABLE 39 – HYPOTHESIS 2 REGRESSION COEFFICIENTS ON PRE-SCANDAL, SCANDAL, AND POST-SCANDAL SUB-PERIODS 154
TABLE 40 – HYPOTHESIS 3 REGRESSION COEFFICIENTS ON PRE-SCANDAL, SCANDAL, AND POST-SCANDAL SUB-PERIODS 155
TABLE 41 – HYPOTHESIS 2 REGRESSION COEFFICIENTS ON DOT COM BOOM, DOT COM BUST, AND POST-DOT COM BUBBLE PERIODS 158
TABLE 42 – HYPOTHESIS 3 REGRESSION COEFFICIENTS ON DOT COM BOOM, DOT COM BUST, AND POST-DOT COM BUBBLE PERIODS 159

List of Figures

Figure 1 – Differences between Reported Earnings and Analyst Consensus Forecast (cents) 93
Figure 2 – Percentage of big beats and small beats over time..... 95
Figure 3 – Average percentage of big beats and small beats per quarter..... 96
Figure 4 – Percentage of firm that meet, beat, and missed expectations over time..... 97
Figure 5 – S&P 500 Index from 1998 to 2007..... 99
Figure 6 – Distribution of R^2 values for the first-stage Modified Jones Model Regressions 102
Figure 7 – Slope of DACC on CAR for Informative and Opportunistic Earnings Management..... 128
Figure 8 – Slope of Additional Discretionary Accruals on CAR for Opportunistic and Informative Earnings Management 144
Figure 9 – Chart of the NASDAQ from 1998 to 2007..... 157

List of Equations

Equation 1 – Performance Adjusted Modified Jones Model Regression 65
Equation 2 – Non-discretionary Accrual Calculation 65
Equation 3 – Bartov, Givoly, & Hayn (2002) Regression Equation 74
Equation 4 – Balsam, Bartov, & Marquardt (2002) Regression Equation..... 75
Equation 5 – Baber, Chen & Kang (2006) Regression Equation..... 75
Equation 6 – Hypothesis 1 Regression Equation 77
Equation 7 – Hypothesis 2 Regression Equation 77
Equation 8 – Hypothesis 3 Regression Equation 80
Equation 9 – Hypothesis 2 Regression with current quarter discretionary accruals 132
Equation 10 – Hypothesis 3 Regression with prior quarter discretionary accruals 146