DO MANAGERS ENGAGE IN EARNINGS MANAGEMENT TO SUPPORT FIRM'S MARKET VALUATION?

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Abstract

This study examines the relationship between a firm's market value and earnings management in the Italian financial market. Change in total accruals is used as a proxy for earnings management and change in the market to book ratio is used as a proxy for a firm's market value. In contrast to the United States, Italy is a code-law and insider system country. The financial accounting system is characterized by a close overlap with tax accounting systems, which allows me to study the relationship with a different perspective than is possible with U.S. data. Moreover, I imply change in total accruals to measure earnings management. To my knowledge, there are no studies utilising this methodology in this type of institutional setting. The results of my study show that an increase in a firm's market value is associated with income-increasing earnings management and a decrease in a firm's market value is associated with income-decreasing earnings management. In line with U.S. evidence, my findings empirically validate Jensen's prediction (Jensen, 2005) of the overvalued company also in the Italian financial market. The positive relationship between a decrease in a firm's market value and income-decreasing earnings management is consistent with Badertscher (2011) study.

Keywords: Market Value, Earnings Management, Market-to-book, Income-increasing/decreasing Earnings Management

JEL Classification: M1, M4, M41, M48

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1. Introduction

In this study I examine the relationship between a firm's market value and earnings management in the Italian financial market. As a proxy for earnings management, I use change in total accruals and as a proxy for firm's market value, I use the change in the market to book ratio.

Jensen (2005) theoretically introduced hypotheses about overvalued firms. He argues that overvalued firms suffer from adverse consequences because extreme valuation may encourage managers to act in a ways that are detrimental to the long-term value of their firms. As a firm becomes more overvalued, the pressure to meet increasingly unrealistic earnings targets becomes grater. Although managers potentially could constrain the market's earnings expectation, to do so would likely adversely affect managers' short-term interests and the short-term value of their firms. In Jensen's argument, managers of overvalued firms face two options. First, the managers could communicate to the market that the expected earnings to justify the inflated stock price could not be delivered by telling the market outright, nor by waiting until the next reporting date and reporting a negative performance surprise. This option has the potential to lead to a negative affect on the managers' compensation and career. The second option, instead, includes the action to inflate reported performance in order to try to justify the inflated stock price. Such action could be overinvesting through acquisitions and expansions, commitment frauds, and managing earnings. In doing so, managers hope to delay the negative compensation and career consequences, destroying substantial shareholder value in the long run. Thus, this paper tests whether a firm's market value leads managers to engage in earnings management to sustain high firm market valuation.

Previous scholars provide evidence on the relationship between a firm's market value and earnings management (Xie, 2001; Desai *et al*., 2004; Kotari *et al.*, 2006; Chi and Gupta, 2007; Efendi et al., 2007; Marciukaityte and Varma, 2008; Bardertscher, 2011; Houmes and Skantz, 2010), most of all taking into consideration U.S. context. To my knowledge, no single study has been conducted based on insider system countries, which differ significantly from the U.S. outsider systems. A re-examination of this relationship in the Italian context is justified for two

reasons. First, compared to the other large economies in the world, Italy has a relatively small equity market (La Porta *et al.*, 1997; Pagano, Panetta, Zingales, 1998). The main sources of financing for the Italian business community are represented by bank lending and internal financing. Second, in contrast to the United States, Italy is a code-law country; the Italian accounting system is regulated by the civil code. The stated goal of the Italian Generally Accepted Accounting Practices (GAAP) is the preservation of equity by accounting-based pay-out rules and a close overlap of tax accounting rules with financial accounting rules.

Following Houmes and Skantz (2010) I accept as a basic assumption that market prices drive reported earnings. I hypothesize a positive relationship between a firm's market value and earnings management and, particularly in the case of an increase in a firm's market value, that managers have an incentive to engage in income-increasing earnings management.

I also hypothesize that managers of companies characterized by a decrease in the firm's market value engage in income-decreasing earnings management, demonstrating that managers of undervalued companies may sustain the undervaluation in order to help themselves, through accounting manipulation, to correct accounting deception.

My panel data analysis shows that an increase in a firm's market value is associated with income-increasing earnings management (measured based on positive change in total accruals) and a decrease in firm's market value is associated with income-decreasing earnings management (measured based on negative change in total accruals).

In line with the U.S. evidence, my findings empirically validate Jensen's prediction (Jensen, 2005) of the overvalued company, which is also in the Italian financial market.

The positive relationship between a decrease in a firm's market value and income-decreasing earnings management is consistent with the Badertscher (2011) study on the choice of an alternative earnings management mechanism. This relationship demonstrates the managers' incentive in correcting previous upward accrual manipulation, avoiding the engagement in the extreme case of earnings management that is likely to imply accounting frauds.

My paper makes two contributions. First, this study focuses on the Italian institutional setting, which differs from the U.S. one. The Italian industrial system is mainly characterized by a majority of small and medium-sized enterprises, most of them family-owned. As said before, the accounting system is different from the U.S. Due to the institutional context that characterizes Italian companies, the main goal of Italian accounting rules is the preservation of equity and a close overlap of tax accounting rules and financial accounting rules. Moreover, in countries like Italy, where the capital markets do not have a strong effect on companies and, as said before, the capital market does not represent the main sources of financing for the companies (as in the United States), one would think that managers will not be motivated to manipulate earnings upward. The evidence and potential results of the study could be relevant to understanding how managers play the earnings management "game", considering how the capital market structure differs from the United States', and to demonstrate the importance of securities markets in order to protect investors' interest. Thus, the Italian data allows us to study the relationship between a firm's market value and earnings management. To my knowledge this is the first study that analyses the relationship between firms' market valuation and earnings management based on Italian data.

Second, to test my hypotheses, I use the change in total accrual as a proxy for the earnings management. The change measure (total accrual in year *t* minus total accrual in year *t*-1) is a particularly strong test for earnings management. To be more precise, accruals are measured relative to a firm's industry and represent the change in net operating assets that would be absent without discretionary earnings management. Thus, from an income statement point of view, a firm with positive total accruals in *t*-1, and a positive change in total accruals in year *t*, is increasing discretionary earnings management by an increasing amount. At the same time, firms with negative total accruals in *t*-1, and negative change in total accruals in year *t*, is decreasing discretionary earnings by a decreasing amount. The previous methodology allows us to detect income-increasing and income-decreasing earnings management phenomena respectively. Research on the relationship between income-increasing/decreasing earnings management (detected by change in total accrual) and firm's market valuation in such an institutional setting is scarce. To my knowledge, this is the first study using the change in total accruals methodology to measure earnings management. Moreover, the paper presents a set of tests examining the robustness of the primary results. One of the most important robustness tests, is related to the possible bias due to the effect of sales growth on the change in total accrual and, thus, on the earnings management measure. To control this possible bias, I checked the empirical analysis using the discretionary accruals as estimated through the Jones model (1991).

The remainder of the paper is structured as follows: the next section describes the mechanisms under study and the main feature of the Italian financial market; Section 3 provides background literature and the hypotheses that relate earnings management with the firm's market value; Section 4 presents the sample and the model design, together with some descriptive statistics; Section 5 and Section 6 discuss results and sensitivity analyse; and the paper closes with a summary and conclusions.

2. Earnings management, firm's market valuation and the Italian context

The traditional view is that the value of accounting information has a dual role: informativeness and stewardship (Ronen, 1979; Antle and Demski, 1989; Natarajan, 1996, 2004; Rajan and Sarath, 1996; Sunder, 1997, 2002; Christesen and Demski, 2003; Feltham, Indjejikinan and Nanda, 2006). The informativeness role arises from the investor's demand for information in order to predict future cash flow and assesses their risk. Previous authors illustrate this informativeness empirically through findings that associate earning and stock prices. Francis, Schipper, and Vincent (2003), for example, found that reported earnings numbers are more closely associated with process than cash flow, sales, and other financial statements' data. Earnings provide information to investors and some information is already known before the firm publicizes its results. In this case, the announcement confirms the market's (and market maker's) beliefs. Some other information, instead, is a surprise. Once investors revise their beliefs about the firm's value, they adjust their investment decisions, which in turn affects market price (Ronen, 2007).

Accounting research supports the street wisdom that "better earnings equal a higher stock price" (Anderson and Thomas, 2005) by providing extensively empirical evidence of the positive link between earnings and market prices and between market prices and future earnings (Lev, 1989; Ball and Bartov, 1996; La Porta, Lakonishock, Shleifer, and Vishny, 1997; Choi, Lee and Press, 2002; Kinney, Burgstahler and Martin, 2002).

Closely related to the previous theoretical framework, there is a large body of literature addressing the relationship between market valuation and earnings management. In particular, an extremely interesting set of empirical study came out after Jensen's 2004 paper in which he introduced "The agency cost of overvalued equity". Within this literature, authors who study the relationship between earnings management and market valuation of the companies can be identified (Kothari et al., 2006; Chi and Gupta, 2007; Efendi et al., 2007; Marciukaityte and Varma, 2008; Bardertscher, 2011; Houmes and Skantz, 2010).

Due to the fact that many differences exist between Italian and U.S. institutional and account reporting terms, Italian data allows me to extend U.S. studies, which is not possible with U.S. data. Furthermore, incentives may differ in the institutional setting of Italy, which may result in a different outcome.

The Italian Context

Italy is a typical code-law regime, with remarkable institutional differences compared to the United States. The Italian economy is much less dependent on the stock market (the majority of the companies are privately held) and banks and other creditors are the principal providers of finance for firms (La Porta et al., 1997; Panetta, Zingales, 1998). Protection for shareholders is poor, so they tend to accumulate high percentages of capital in order to control the activities of their managers. The Milan Stock Exchange is the only public equity market in Italy. Typically, a firm whose shares are traded on the Milan Stock Exchange are former state controlled entities or family run firms, both characterized by highly concentrated ownership structure. The asymmetric information between the insider and the banks are mainly resolved through informal channels, creating limited incentive to produce high quality public information. Disclosure, then, is seen as a legal/fiscal requirement more than a useful tool (Zambon and Saccon, 1993) to inform outside shareholders. Due to the fact that legal enforcement and investor protection rules have been rather weak for several years, minority shareholders are left in an unfavourable position (Zingales, 1994; Fiori, 2003; di Donato, 2005).

The Italian accounting system, regulated by the Civil Code and the Italian local GAAP, has the stated goal of preservation of equity by accounting-based dividend pay-out rules (strong conservatism) and a traditional close overlap of tax accounting with financial accounting rules. Especially in small and medium enterprises (SME), income-decreasing earnings management, with the purpose of tax avoidance and attributing personal costs of the entrepreneurs to the firms, has been a widespread phenomenon during the last thirty years (Fiori, 2003). This could be one of the most important differences related to the content of earnings management and the role of the stock market in Italy compared to the United States.

To my knowledge, almost no research has accounted for the relationship between firm's market value and earnings management in a code-law country with an insider corporate governance system.

3. The relation between earnings management and firm's market valuation.

Chief executive and financial officers (CEOs and CFOs) know that the capital markets will punish the entire firm if they miss analysts' forecasts. Just as a manager who meets or exceeds an internal target receives a bonus, the capital market rewards a firm with a premium for meeting or beating analysts' expectations. Skinner and Sloan (2002) demonstrated that when a firm produces earnings that beat the consensus of the analysts' forecast for the quarter, the stock price increases an average of 5,5 percent during the quarter over the returns of a size-matched portfolio. For negative earnings surprises, the stock price falls an average of 5,04 percent during the quarter compared to the size-matched portfolio.

Generally, the only way for managers to meet those expectations, year and year out, is to cook their numbers to mask the inherent uncertainty in their business. When numbers are manipulated to tell the market what they want to hear, rather than the true status of the firm, and when the real operating decisions that would maximize the value are compromised to meet market expectations, real long term value is being destroyed (Jensen, 2005). Jensen theoretically pointed out that overvalued equity creates a setting in which some managers (agent) take actions to support the firm's short-term price, and those actions are costly to the current debt-holders and long term stockholders (principal). Under this perspective, managers of overvalued companies are likely to manage their firm's earnings to enhance or maintain the stock price overvaluation (Jensen, 2004).

Kothari et al., (2006) provides empirical evidence to support Jensen's argument. Their basic hypothesis predicts that overvalued companies are likely to engage in income-increasing earnings management in order to meet the unrealistic performance expectations incorporated in the stock prices. Using a sample of U.S. companies with data accumulated between 1963 and 2004, they found that companies in the highest income-increasing accrual decile experience an abnormally large price run-up prior to the accrual management year, followed by stock underperformance in the subsequent year. Additionally, Chi and Gupta (2007) organised their study around the question of whether overvaluation of equity leads to more income-increasing earnings management. Based on U.S. data from 1963 to 2003, using an earnings management measure based on a modified version of the Jones model (1991), and a measure of a firm's valuation as suggested by Rhodes-Kropf et al. (RKRV, 2005), they found that overvaluation is significantly related to subsequent income-increasing earnings management (high discretionary accruals)[1]. Moreover, consistent with the theoretical framework adopted for their study, they also found that higher discretionary accruals are associated with lower future abnormal stock return. The relation found by Chi and Gupta (2007) of the association between discretionary accruals and lower future abnormal stock returns, as well as between accruals and lower future operating performance, are robust when controlling for a host of firm, governance, and managerial incentive attributes.

Concerning managerial compensation incentive, Efendi et al. (2007) provide evidence that CEOs holding in-the-money stock options engage significantly more in financial restatements. In particular, they investigated the incentives that led to the rush of restated financial statements at the end of the 1990s market bubble, providing evidence on CEO opportunism during that time period in an effort to support overvalued stock price. Using data of 350 U.S. companies, they found that the likelihood of a misstated financial statement increases greatly when the CEO has very sizable holdings in-the-money stock.

Considering an alternative perspective, Bardertscher (2011) examines how the degree and duration of overvaluation affect management's choice of an alternative earnings management mechanism. He examines the relation between overvalued equity and management's use of alternative within-GAAP and subsequent non–GAAP earnings management. Specifically, he predicts that the longer a firm is overvalued the more likely the firm will engage in within-GAAP earnings management. If at some point the overvalued firm is no longer able to engage in within-GAAP earnings management, Badertscher predicts that they will likely segue to non-GAAP earnings management in order to report the high performance demanded by the market year after year.

Using the earnings restatement methodology to measure earnings management, Marciukaityte and Varma (2007) estimate that firms that made earnings-decreasing restatements between 1990 and 2001, lost $72 billion around restatement announcements. They empirically demonstrated that despite very good stock performance and low book-to-market values before earnings misstatement, large-loss firms are associated with a mean abnormal return of -39% during the announcement period, and underperform matched firms by 44% during the first post-restatement year.

A more recent study by Homes and Skantz (2010), using data from Compustat, suggests that high firm valuation and CEO equity at risk increase the likelihood of earnings management.

Thus, there are several evidences that high valued firms subsequent underperformance in the market and managers do not accept the decline in share price as inevitable. Instead, managers of high valued firms have considerable incentive to avoid reporting disappointing earnings and perpetuate the valuation, thus engaging in earnings management (Jensen, 2004).

Based on the presented theoretical framework, it was expected that an increase in a firm's market valuation induced managers to engage in income-increasing earnings management. Based on the predictions presented by Jensen (2005), when a listed company sees the market value go up, managers may have two choices: to report the profit lower than expected based on actual performance, or to overstate the profit of the company to temporarily satisfy market expectation. The studies presented in this section are all developed using U.S. companies and do not provide evidence for other institutional context. The aim of the following hypothesis is to provide evidence of the relationship under analysis for the Italian contest, a code-low country with insider system economy.

Thus, in order to demonstrate the manager's incentive to perpetuate the increase in a firm's market valuation, I expect a positive relationship between an increase in the firm's market value and income-

increasing earnings management. I propose the following hypothesis:

H1: ceteris paribus, income-increasing earnings management is positively correlated to an increase in a firm's market value.

The previous hypothesis is also coherent with the findings of Badertscher (2011). As stated before, he predicts that the longer a firm is overvalued the more likely the firm will engage in within-GAAP earnings management. If the overvaluation is no longer sustainable through a within-GAAP earnings management, he demonstrated that managers would likely segue to non-GAAP earnings management in order to report the high performance demanded by the market year after year. Moreover, he found evidence that firms with sustained overvaluation are more likely to be restricted in their ability to engage in further accruals management, leading them to engage in a more costly form of real transaction[2].

Based on the Badertscher (2011) findings on the alternative earnings management mechanism, it was expected that managers of an overvalued company might change accounting manipulation from income-increasing to income-decreasing earnings management in order to avoid an extreme form of upward earnings management. Moreover, considering the close overlap between tax accounting and financial accounting rules characterizing the Italian institutional context, a positive relation between a decrease in firm's market value and income-decreasing earnings management is expected. This phenomenon could have a double explanation. On one hand, in the case of a decrease in a firm's market value, managers of companies which were overvalued one year, may engage in income-decreasing earnings management the following year in order to correct previous upward accrual accounting manipulation, thus avoiding engagement in the extreme forms of earnings management that induce accounting frauds. On the other hand, the positive relation between a reduction in a firm's market value and income-decreasing earnings management means that, in case of a close overlap between the tax and financial accounting systems, managers engage in earnings management (in particular, income-decreasing earnings management) for different reasons from the one related to the sustainability of the firm's market value over time.

Thus, I propose the following hypothesis:

H2: ceteris paribus, income-decreasing earnings management is positively correlated to a decrease in firm's market value.

4. Empirical Study

Sample and Data

My sample is comprised of 209 Italian firms listed in the Milan Stock Exchange between 1997 and 2010. I excluded financial intermediaries, insurance companies and public utilities, because of the relevant differences in regulation and corporate governance systems and, above all, to avoid problems associated with estimating accruals for various types of regulated and financial services companies.

Firm's market value, earnings management measure, and firm-level variables are computed using accounting and financial data provided by Wordscope database, which offers access to historical financial numbers. The analysis on the Italian market implies a considerable missing data problem. Indeed, as seen in the results section, from a total of 2.717 possible observations (209 firms x 13 years) my sample was finally reduced to 1.582 (in the main analysis) firm-year observations. In order to limit the number of firms excluded from my sample, those with incomplete thirteen-year data were not disqualified from the analysis, but I include in the sample firms with at least two subsequent years' observations. Thus, a different number of observations were included in each of the thirteen years under study.

Table 1 presents the list of the companies that compose my sample divided by industry. Wordscope classifies each company by industry, and a sector as any group of stock with the same industrial classification.

The accruals model

To test my hypotheses, I estimate a fixed-effect model that regress the change in total accrual from year *t*-1 to year *t* (as a proxy for earnings management) on the change in market to book value from year *t*-1 to year *t* (as a proxy for firm's market value).

To detect the value of discretionary accruals, I apply the total accruals model (Healy, 1985; DeAngelo, 1986, 1988; Dechow and Sloan, 1991; Jones, 1991; Dechow, Sloan and Sweeney, 1995; Dechow and Dechev, 2002; Dechow, Richardson and Tuna, 2003; Kothari, Leone and Wasley, 2005). This model builds on the difference between net income and cash flow from operating activities, all standardized for total assets. In particular, following Houmes and Skantz (2010), I examine my hypotheses using change in total accruals. The change measure (total accrual in year *t* minus total accrual in year *t*-1) is a particularly strong test for our hypotheses. Accruals are measured relative to a firm's industry and represent the change in net operating assets that would be absent without discretionary earnings management. Thus, from an income statement point of view, a firm with positive total accruals in year *t*-1, and a positive change in total accruals in year *t*, is

increasing discretionary earnings by an increasing amount (income-increasing earnings management). At the same time, a firm with negative total accruals in year *t*-1, and negative change in total accruals in year *t*, is decreasing discretionary earnings by a decreasing amount (income-decreasing earnings management). The previous methodology allows me to detect the income-increasing/decreasing phenomena. Moreover, the change in total accruals as a dependent variable is akin to a test of the hypothesis that an increase in firm's market value strives to achieve or sustain earnings momentum to an increase in accruals. Formally, my dependent variable is:

$$change\_TA_{ijt} = TA_{ijt} - TA_{ijt-1} \quad (1)$$

where: TA_{ijt} and TA_{ijt-1} are respectively the total accrual for firm *i* in the industry *j* at year *t* and year *t-1*. Specifically, *TA* is equal to $(NI_{ijt} - CFO_{ijt-1})/assets_{ijt}$ where NI_{ijt} represent the net income for firm *i* in the industry *j* at year *t*; while CFO_{ijt} represents the cash flow from operating activities for firm *i* in the industry *j* at year *t*.

Table 1. Sample by industry

	Industry	Companies (number)	Companies (%)
1	Automobile&Parts	11	5,26%
2	Chemical	3	1,44%
3	Construction&Material	17	8,13%
4	Electricity	9	4,31%
5	Electronic&Electrical Equip.	12	5,74%
6	Food	10	4,78%
7	Gas, Water & Multiutilities	9	4,31%
8	General Industrial	4	1,91%
9	General Retail	5	2,39%
10	Healthcare Equip.	5	2,39%
11	Household Good	11	5,26%
12	Industrial Engeneering	13	6,22%
13	Industrial Transportation	11	5,26%
14	Leisure Good	4	1,91%
15	Media	18	8,61%
16	Mobile Telecomunication	2	0,96%
17	Oil&Gas Produces	5	2,39%
18	Personal Good	16	7,66%
19	Pharma&Bio	2	0,96%
20	Real Estate Inv.	9	4,31%
21	Softwar&Computer Services	10	4,78%
22	Support Services	7	3,35%
23	Technology &Hardware	8	3,83%
24	Unclassified	8	3,83%
	Total	209	

The market valuation measure

Finance literature provides several methods to measure firm's market value (Fama and French 1992, 1996; Lakonishock et al., 1994). The most common is a methodology developed by Rhodhes-Kropf, Robinson and Viswanathan (2005). The authors decomposed the market-to-book equity ratio into components, one related to misevaluation and the other one related to growth options. Following the previous framework and the empirical studies measuring the firm's market value, a market-to-book ratio (M/B) is adopted as an independent variable. I create a market to book portfolio based on the yearly market to book for each firm-industry observation. I compute the market to book as the fiscal year-end share price divided by the fiscal-year end book value. Then, in order to estimate the increase and the decrease in firm's market value I create a variable based on the change in M/B from year *t*-1 to year *t* for each firm-year observation. I compute the following formula:

$$change\_M/B_{ijt} = \frac{M_{ijt} - M_{ijt-1}}{B_{ijt-1}} \quad (2)$$

where, M_{ijt} and M_{ijt-1} represents respectively the market value of firm *i* in the industry *j* at year *t* and at year *t*-1; while B_{ijt-1} represents the book value of the firm *i* in the industry *j* at year *t*-1.

Lagged rankings are used to form the portfolio because increasing and/or decreasing in the firm's market value is hypothesized to precede the incentive to manage earnings in order to meet or maintain earnings expectations.

Model specification

Several control variables traditionally identified in the literature as correlated with total accruals and discretionary accruals are also included in the models. I include leverage (Watts and Zimmerman, 1986; Press and Weintrop, 1990; DeFond and Jimbalvo, 1994; Watts, 2003a and 2003b; Cheng and Warfield, 2005; Beaver and Ryan, 2000), company's performance (Kadan and Yang, 2005) and firm size (Lang and Lundholm, 1993; Dechow and Dichev, 2002; Cheng and Warfield, 2005; Kadan and yang, 2005).

To test my hypotheses, a panel data with firm-year observations from 1997 to 2010 is used and I run a fixed-effect model. The following equation, which also includes control variables, allows me to statistically test the relationship between changes in total accruals and changes in market-to-book (hypothesis 1):

$$change\_TA_{ijt} = \beta_0 + \beta_1 changeM/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt} \quad (3)$$

Always related to the hypothesis H1, in order to study the income-increasing phenomenon, I create a portfolio of firms considering only those with positive change in total accruals from year *t*-1 to year *t*. Through this second test I have the opportunity to empirically demonstrate the strong relationship between an increase in firm's market value and income-increasing earnings management. Thus, I run the following equation for the positive accruals sub-sample:

$$+change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt} \quad (4)$$

Finally, in order to test hypothesis 2 on the relationship between a decrease in firm's market value and negative change in total accruals (income-decreasing earnings management hypothesis) I create a portfolio of firms considering only those with negative change in total accruals from year *t*-1 to year *t*. Thus, I run the following equation for the negative accruals sub-sample:

$$-change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt} \quad (5)$$

Descriptive statistics

Table 2 shows descriptive statistics of the variables used in the regression models. I provide mean, median, standard deviation, minimum and maximum, along with a number of observations for each of the variables included in the statistical test.

Panel A shows the descriptive statistics for the portfolio based on a change in total accruals (*change_TA*) from year *t*-1 to year *t*. The median value of the change in the firm's market value (*change_M/B*) from year *t*-1 to year *t* is equal to -.03301.

Panel B is composed by a firm's observation characterized by positive change in total accruals (+*change_TA*) from year *t*-1 to year *t*, representing the income-increasing earnings management phenomenon. The median value for the variable change in the firm's market value from year *t*-1 to year *t* (*change_M/B*) is equal to .00864.

Panel C is composed by the firm's observation characterized by negative change in total accruals (-*change_TA*) from year *t*-1 to year *t*, representing income-decreasing earnings management portfolio. The median value for the variable change in the firm's market value from year *t*-1 to year *t* (*change_M/B*) is equal to -.14299.

Comparing Panel B and Panel C, the differences, in terms of the direction of the accounting manipulation, can be underlined. As we see, the median value of the variable change in the firm's market value in Panel B (income-increasing accounting manipulation) is higher than the value of the variable change in the firm's market value in Panel C (income-decreasing accounting manipulation). The value of the variable is respectively .00864 and -.14299. This means that in the case of yearly positive change in total accruals, the median value of the firm's market value is higher than in the case of yearly negative change in total accruals. The analysis on the mean value provides same results.

Panel A provides the Pearson correlation coefficient for all of the variables in my regression model for the sample of 1.582 firm-year observations pooled between 1997 and 2010.

As can be seen in Panel A, the Pearson correlation between change in total accruals (*change_TA*) and change in the firm's market value (*change_M/B*) is positive and significant (coefficient equals to .1351***).

Panel B provides the Pearson correlation coefficient for all of the variables representing only positive changes in total accruals. This sub-sample is composed by 766 firm-year observations pooled between 1997 and 2010. Also in Panel B, the Pearson correlation between yearly positive change in total accruals (+*change_TA*) and firm's market value

(*change_M/B*) is positive and significant (coefficient: .0703**).

Table 2. Descriptive statistics

Panel A: Descriptive statistics - Change in Total Accruals

	Mean	Median	Std Dev	Min	Max	N
change_TA	.0007226	-.0006586	.0916977	-.2229756	.2723369	1962
change_M/B	-.0607715	-.033001	1,101836	-3,651605	3,139022	1863
lnAssets	12,93197	12,70004	1,854104	9,5828	17,71038	2360
laggedROA	.0170198	.0206792	0.578115	-.1838076	.1398961	2423
LEV	.6161668	.6343437	.1843551	.1886658	.9624596	2446

Notes:
change_TA: change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
The sample period is from 1997 to 2010. *Panel A* represents the change in total accruals portfolio. For *Panel A* we provide mean, median, standard deviation (Std Dev), minimum (Min), maximum (Max) and number of observations (N) for each variable.

Panel B: Descriptive statistics - Income increasing earnings management

	Mean	Median	Std Dev	Min	Max	N
+change_TA	.0668223	.0433318	.0684015	0	.2723369	977
change_M/B	.0091244	.0086432	1,096997	-3,651605	3,139022	1007
lnAssets	12,8639	12,6692	1,842749	9,5828	17,71038	1416
laggedROA	.0122518	.0185406	.0615381	-.1838076	.1398961	1442
LEV	.6213807	.6394265	.0615381	.1886658	.9624596	1461

Notes:
+change_TA: positive change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
The sample period is from 1997 to 2010. Panel B represents the income-increasing earnings management portfolio. For Panel B we provide mean, median, standard deviation (Std Dev), minimum (Min), maximum (Max) and number of observations (N) for each variable.

Panel C: Descriptive statistics - Income-decreasing earnings management

	Mean	Median	Std Dev	Min	Max	N
-change_TA	-.0648403	-.0461278	.0589529	-.2229756	-.0006169	985
change_M/B	-.093187	-.1429971	1,10248	-3,651605	3,139022	856
lnAssets	12,74134	13,03409	1,867334	9,5828	17,71038	944
laggedROA	.0231972	.0240284	.0510779	-.1838076	.1398961	981
LEV	.6084332	.6217086	.1821944	.1886658	.9624596	985

Notes:
-change_TA: negative change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
The sample period is from 1997 to 2010. Panel B represents the income-decreasing earnings management portfolio. For Panel B we provide mean, median, standard deviation (Std Dev), minimum (Min), maximum (Max) and number of observations (N) for each variable.

Finally, Panel C provides the Pearson correlation coefficient for the income-decreasing earnings management portfolio. The sub-sample is composed of 816 firm-year observations pooled between 1997 and 2010. The Pearson correlation between yearly negative change in total accruals *(-change_TA*) and the firm's market value (*change_M/B*) is positive and significant (coefficient equals to .1924***).

Table 3. Pearson correlation coefficients Firm-Years from 1997 to 2010

Panel A: Pearson correlation coefficients Firm-Years from 1997 to 2010 - Change in Total Accruals

Variables		1	2	3	4	5
1	*change_TA*	1				
2	*change_M/B*	.1351***	1			
3	*lnAssets*	-.02114	.0546**	1		
4	*ROA*	.1266***	.02570***	-.0072	1	
5	*LEV*	-.0066	-.0484	.0921***	-.3034***	1

Notes:
This table reports Pearson correlation coefficients for the sample used in Panel A. Variables are defined in the order list in rows. *change_TA:* change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA:* return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

Panel B: Pearson correlation coefficients Firm-Years from 1997 to 2010 - Income-increasing earnings management (positive change in total accruals)

Variables		1	2	3	4	5
1	*+change_TA*	1				
2	*change_M/B*	.0703**	1			
3	*lnAssets*	-.2191***	.0282	1		
4	*ROA*	-.2617***	.1340***	.0011	1	
5	*LEV*	.0396	.0693**	.0895***	-.2431***	1

Notes:
This table reports Pearson correlation coefficients for the sample used in Panel B. Variables are defined in the order list in rows. *+change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-increasing earnings management); *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

Panel C: Pearson correlation coefficients Firm-Years from 1997 to 2010 - Income-decreasing earnings management (negative change in total accruals)

Variables		1	2	3	4	5
1	*-change_TA*	1				
2	*change_M/B*	.1924***	1			
3	*lnAssets*	.2190***	.0844**	1		
4	*ROA*	.0562*	.0861**	-.0177	1	
5	*LEV*	-.0662**	-.0254	.0998***	-.3726***	1

Notes:
This table reports Pearson correlation coefficients for the sample used in Panel C. Variables are defined in the order list in rows. *-change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-decreasing earnings management); *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.
***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

5. Empirical Results

The results of the fixed effect models are presented in Table 4. The first column shows the pooled results and includes all the observations in the sample (Model 1). The next two columns refer to income-increasing earnings management (Model 2) and income-decreasing earnings management (Model 3).

I found that *change_M/B* coefficient is positive and significant in all specifications, suggesting a positive relation between the increase (decrease) in the firm's market value from year *t*-1 to year *t* and an increase (decrease) in earnings management, which is consistent with my expectation that managers handling overvalued (undervalued) companies have strong incentive to sustain overvaluation (undervaluation).

As stated before, I provide two different tests for hypothesis 1. First, I run Model 1 considering all the observations in the sample (1.582). Then, to analyse the potential differences in the results considering the direction of the accounting manipulation, I run Model 2 considering only positive changes in total accruals (income-increasing earnings management). Finally, I test hypothesis 2 through Model 3, which considers only negative changes in total accruals (income-decreasing earnings management).

In Model 1, the coefficient of the variable *change_M/B* is positive and significant (two-tailed p-value <0.01), supporting the hypothesis that an increase in firm's market value is associated with an increase in total accruals. This result is consistent to Jensen (2005), supporting the prediction that when managers see an increase in the firm's market value, they have the incentive to perpetuate the positive valuation by engaging in accounting manipulation. Moreover, this result is coherent with the empirical evidences on the earnings momentum provided by Myers et al. (2006), which provided evidences on firms that report a long "string of consecutive increases in earnings per share". They show that these firms consistently enjoy abnormally strong stock market performance over the period during which they report earnings strings, and that this performance is stronger for firms that report consistent increases in annual earnings per share (EPS). The negative market reaction associated with the end of this string is more adverse for firms that have reported longer strings. These regularities provide managers with strong incentive to maintain and extend the earnings strings and, in extreme cases, this may lead to accounting frauds. It is also pointed out that this phenomenon is likely to be attributable to earnings management, and provides evidence that managers of these firms exercise their financial reporting discretion to sustain and extend their firm's earnings strings. Through Model 1 I provide similar results.

The coefficients of the control variables have the expected sign and are consistent with findings in previous studies. As indicated by the negative and significant coefficient on *laggedROA* (two-tailed p-value <0.01), companies with poor performance in the previous year engage in earnings management practices in the subsequent year to improve future results. I regress the return on assets (ROA) at year *t*-1 with the change in total accruals from *t*-1 to *t*. The negative sign shows that firms unable to meet last year's earnings level may have incentive to use accruals to avoid earnings disappointments (Kadan and Yang, 2005). Moreover, consistent with Astami and Tower (2006), my result confirms a negative and statistically significant relation between financial leverage and earnings management (two-tailed p-value <0.01). Following Watts (2003a and 2003b), this result is consistent with the prediction that firms with more leverage will be bound contractually to apply accounting in a more conservative way.

Always with reference to hypothesis 1, I design my test to document evidence of income-increasing earnings management. Model 2 also supports H1. In Model 2 I change the dependent variable and run a regression only considering the observation in Panel B (only positive change in total accruals, *+change_TA*). The coefficient of the variable *change_M/B* is still positive and significant (two-tailed p-value 0.01), thus supporting the hypothesis that an increase in firm's market value induces managers to engage in income-increasing earnings management in order to sustain the positive valuation, which is consistent with the empirical findings of Chi and Gupta (2007). Using a sample composed by U.S. listed companies, they found that overvaluation is significantly related to subsequent income-increasing earnings management. Again, the previous result is coherent with the Jensen (2005) prediction of "the agency costs of overvalued equity". If firms report market premium (positive market valuation for consequently years), their managers will be in a difficult situation once they realize that the market premium is not sustainable and, thus, they engage in increasingly aggressive accounting to match unrealistic expectations about their firm's valuation. Regarding the control variables, I confirm the results for performance, while obtaining insignificant results for financial leverage (*LEV*).

Table 4. Results for charge in total accruals

	Model 1 (Panel A)	*Model 2 (Panel B)*	*Model 3 (Panel C)*
	$change\_TA_{it} = \beta_0 + \beta_1 change\_M / B_{it} + \beta_2 \ln Assets_{it} + \beta_3 laggedROA_{it-1} + \beta_4 LEV_{it} + \varepsilon_{it}$	$+change\_TA_{it} = \beta_0 + \beta_1 change\_M / B_{it} + \beta_2 \ln Assets_{it} + \beta_3 laggedROA_{it-1} + \beta_4 LEV_{it} + \varepsilon_{it}$	$-change\_TA_{it} = \beta_0 + \beta_1 change\_M / B_{it} + \beta_2 \ln Assets_{it} + \beta_3 laggedROA_{it-1} + \beta_4 LEV_{it} + \varepsilon_{it}$
Incercept	.08585* (.04406)	.11942*** (.04282)	-.06454* (.03726)
change_M/B	.00995*** (.00218)	.00683*** (.00222)	.00562*** (.00187)
lnAssets	-.00218 (.00324)	-.00397 (.00315)	.00245 (.00271)
laggedROA	-.52008*** (.05286)	-.25243*** (.05030)	-.11013** (.05425)
LEV	-.08243*** (.02581)	-.00540 (.02653)	-.02544** (.02160)
F	30.96***	9.07***	4.39***
R2	.053	.13	.047
N	1582	766	816
Industry-year fixed effect	yes	yes	yes

Notes:

This table reports the results for the fixed effect model. The first column shows the pooled results and includes all the obsevation in the sample (*Panel A*). The next two columns refer to income-increasing earnings management (*Panel B*) and income-decreasing earnings management (*Panel C*).The sample period is from 1997 to 2010. All the variables are winsorized at the 2% level.

The variables are defined as following: *change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *+change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-Increasing earnings management); *-change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-decreasing earnings management); *change_M/B*: change in market to book ratio from yeat t-1 to year t; lnAssets: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.

***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

As said before, through Model 3 I detect the results for the income-decreasing earnings management phenomenon. In Model 3, I run a regression considering Panel C (only negative change in total accrual, *-change_TA*). The coefficient of the variable *change_M/B* is positive and significant (two-tailed p-value <0.01), meaning that a decrease in a firm's market value (decreasing of the market-to-book value from *t*-1 to *t*) is related to income-decreasing earnings management (negative change in total accrual from *t*-1 to *t*). I found that in the case of a decrease in a firm's market value, managers have incentive to sustain the reduction engaging in income-decreasing earnings management. Based on the Badertscher (2011) findings on company's overvaluation and choice of alternative earnings management mechanism, I suggest that when managers see the value of the company going down, they engage in income-decreasing earnings management in order to correct previous upward accrual accounting manipulation, avoiding to engage in the extreme case of earnings management (non-GAAP earnings management), which induce accounting frauds. The previous finding also seems to be consistent with Lev (2012) predictions about mispricing and earnings restatement. In that study, ranking companies within a large number of industries by their mean three-year price-to-earnings (P/E) in the early 2000s, found that the higher the P/E groups are, the higher the probability of earnings restatement (as a proxy of earnings manipulation). At the same time, the results show that the lower P/E group also has high frequency of earnings restatement, suggesting that some managers of undervalued companies help themselves to accounting trickery (Lev, 2012).

Finally, to control for the controversial effects of the firms' size, I use the natural log of the firm's fiscal end-year assets. For all models presented above, the variable is not statistically significant.

6. Sensitivity Analyses

I have tested the robustness of my main results with a number of alternative estimation approaches. I first re-estimated Model 1, Model 2 and Model 3, and then re-tested the two hypotheses of my study, using the Jones model (1991) to measure the discretionary accruals instead of the total accruals model, and the results are practically the same.

One of the possible reasons for an increase in a firm's total accruals should be an increase in operations activities, without any relation to managerial discretion in accounting choices. In order to examine the robustness of my main results, the change in discretionary accruals, as a dependent variable, (as estimated through Jones model, 1991) is considered. Using this methodology, I control for the possible effect of the sales growth (McNichols, 2000). The discretionary accruals are estimated as the difference between total accrual and non-discretionary accruals, and the estimation of the residuals from Jones model is used as a proxy for discretionary accruals.

Table 5 reports the results for Model 1, Model 2 and Model 3 using change in discretionary accruals (*change_disCA*) as a dependent variable, while I run the same independent variable used for the main tests (*change_M/B*). In Model 1, change in discretionary accruals are positively related to change in the firm's market value (two-tailed p-value <0.01). The sensitivity analysis strongly supports my findings on hypothesis 1. I also obtain supportive results with reference to the control variables (*laggedROA* and *LEV*).

I run Model 2 to make even more robust the results obtained through Model 1. The sensitivity analysis confirms that companies characterized by an increase in the firm's market value from year *t*-1 to year *t*, engage in income-increasing earnings management (measured through positive change in discretionary accruals from year *t*-1 to year *t* as dependent variable).

Finally, Model 3 provides results supporting H2. The trend in the positive and significant relationship between discretionary accruals and firm's market value has been confirmed.

Moreover, to provide support for the interpretation of my main results, Table 5 provides results considering different sample-period compositions. This sensitivity analysis allows me to check if the phenomenon could be influenced by a different time series and, at the same time, to control for the introduction of the International Financial Reporting Standards (IFRS) in Italy in 2005. Then, I split my sample into two sub-samples. The first one is the *"pre-IFRS sub-sample"* composed by firm-year observations from 2005 to 2010. Model 4, Model 5 and Model 6 in Table 5 provide results. The second one is the *"post-IFRS sub-sample"*, composed by firm-year observations from 1997 to 2004. Model 7, Model 8 and Model 9 provide results.

Table 5. Results for change in discretionary accruals

	Model 1 (Panel A)	*Model 2 (Panel B)*	*Model 3 (Panel C)*
	$change\_disCA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$	$+change\_disCA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$	$-change\_disCA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$
Intercept	.03914 (.04442)	.08756** (.03728)	-.04941 (.03836)
change_M/B	.00487*** (.00200)	.00371** (.00181)	.00460** (.00184)
lnAssets	.00063 (.00325)	-.00300 (.00272)	.00180 (.00280)
laggedROA	-.29642*** (.05034)	.00932 (.04231)	-.14133*** (.05027)
LEV	-.07293*** (.02536)	.01633 (.02238)	-.04965** (.02192)
F	11.40***	1.35	4.86***
R2	.016	.029	.0007
N	1530	751	779
Industry-year fixed effect	yes	yes	yes

Notes:

This table reports the results for the fixed effect model. The first column shows the pooled results and includes all the obsevation in the sample (Panel A). The next two columns refer to income-increasing earnings management (Panel B) and income-decreasing earnings management (Panel C).The sample period is from 1997 to 2010. All the variables are winsorized at the 2% level.

The variables are defined as following: *change_disCA*: change in discretionary accruals from year t-1 to year t, estimated through Jones model 1991; *+change_disCA*: change in discretionary accruals from year t-1 to year t, estimated through Jones model 1991 (income-Increasing earnings management); *-change_disCA*: change in discretionary accruals from year t-1 to year t, estimated through Jones model 1991 (income-decreasing earnings management); *change_M/B*: change in market to book ratio from yeat t-1 to year t; *lnAssets*: natural log of total assets; laggedROA: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.

***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

Table 6. Alternative sample composition results

	years from 2005 to 2010		
	Model 4 (Panel A)	*Model 5 (Panel B)*	*Model 6 (Panel C)*
	$change\_TA_{it} = \beta_0 + \beta_1 change\_M/B_{it} + \beta_2 \ln Assets_{it} + \beta_3 laggedROA_{it-1} + \beta_4 LEV_{it} + \varepsilon_{it}$	$+change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$	$-change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$
Incercept	-.01701 (.14416)	.07212 (.10558)	-.06677 (.10549)
change_M/B	.00666*** (.00264)	.00462* (.00263)	.00455** (.00226)
lnAssets	.07725 (.01091)	-.00123 (.00799)	.00430 (.00804)
laggedROA	-.69162*** (.06751)	-.3664*** (.0595)	-.21453*** (.06637)
LEV	-.11164*** (.03856)	.01013 (.03425)	-.06865 (.03039)
F	29.48***	10.97***	4.51***
R2	.061	.182	.036
N	999	551	559
Industry-year fixed effect	yes	yes	yes

Notes:

This table reports the results for the fixed effect model. The first column shows the pooled results and includes all the obsevation in the sample (Panel A). The next two columns refer to income-increasing earnings management (Panel B) and income-decreasing earnings management (Panel C).The sample period is from 2005 to 2010. All the variables are winsorized at the 2% level.

The variables are defined as following: *change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology; *+change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-Increasing earnings management); *-change_TA*: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-decreasing earnings management); *change_M/B*: change in market to book ratio from yeat t-1 to year t; lnAssets: natural log of total assets; *laggedROA*: return on assets at year t-1; *LEV*: ratio between total liabilities and total assets at the end of fiscal year.

***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

years from 1997 to 2004

	Model 7 (Panel A)	*Model 8 (Panel B)*	*Model 9 (Panel C)*
	$change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$	$+change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$	$-change\_TA_{ijt} = \beta_0 + \beta_1 change\_M/B_{ijt} + \beta_2 \ln Assets_{ijt} + \beta_3 laggedROA_{ijt-1} + \beta_4 LEV_{ijt} + \varepsilon_{ijt}$
Incercept	.1585**	.22158**	.4506
	(.08840)	(.08663)	(.07192)
change_M/B	.01278***	.00843*	.01308***
	(.00459)	(.00480)	(.00380)
lnAssets	-.00719	-.00461	-.00434
	(.00609)	(.00609)	(.004806)
laggedROA	-.39694**	.00904	-.38499***
	(.17728)	(.18808)	(.14343)
LEV	-.10599	-.16430***	-.07765
	(.06642)	(.06272)	(.05642)
F	3.69***	3.13***	4.65***
R2	.011	.036	.008
N	472	215	257
Industry-year fixed effect	yes	yes	yes

Notes:

This table reports the results for the fixed effect model. The first column shows the pooled results and includes all the obsevation in the sample (Panel A). The next two columns refer to income-increasing earnings management (Panel B) and income-decreasing earnings management (Panel C).The sample period is from 1997 to 2004. All the variables are winsorized at the 2% level.

The variables are defined as following: change_TA: change in discretionary accruals from year t-1 to year t, using the total accruals methodology; +change_TA: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-Increasing earnings management); -change_TA: change in discretionary accruals from year t-1 to year t, using the total accruals methodology (income-decreasing earnings management); change_M/B: change in market to book ratio from yeat t-1 to year t; lnAssets: natural log of total assets; laggedROA: return on assets at year t-1; LEV: ratio between total liabilities and total assets at the end of fiscal year.

***Significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.1 level

As seen in the variable *change_M/B*, the results are practically the same as in my main analysis, supporting H1 and H2 for different time-series sample composition.

Untabulated regressions have also been estimated using industry groups to explore the possibility that the relationships under analysis are stronger in some industries than in others. I use the Datastream Global Equity Indices (Level 4-sector) to group the 209 firms in 24 different industry portfolios. From the results, I obtain that the industries presenting a significant relationship between the firm's market value and earnings management are those composed of the Italian companies that will most likely have a high value of intangible assets, particularly with reference to the brand. The result is consistent with Nicholas (2008), showing that intangibles are a significant component of a firm's market value. In particular, the market value regression and Fama-French factors model reveal a high significant return to intangibles during the 1920s, especially in the electrical and chemical fields (Nicholas, 2008).

Unfortunately, the small number of the observations does not allow us to study the industry portfolios for income-decreasing earnings management, depriving me of the opportunity to show the potential differences in the results. For the same reason, I was not able to acquire results for industry mobile and telecommunication; the minimal amount of available information does not represent a significant portfolio.

At the end, I run my main analysis with alternative model specification. As said before, all the regressions are fixed effect model. Given a panel data analysis, the causal effect of firm's market value and earnings management can be estimated by treating the statistical analysis through a fixed effect model (Wooldridge, 2009; Angrist and Pischke, 2009). Thus, I impose a time independent effect for each observation that is possibly correlated with the regressors. Due to the fact that the panel data analysis implies repeated companies over time, someone might argue that the statistical tests are significant because the repeated observations are not independent. To make the statistical test even more robust, I run yearly OLS regression. The coefficients of the independent variable of the main analysis (*change_M/B*) are still positive and statistically significant. The previous analysis makes my findings robust to the possible dependent observations bias.

7. Summary and Conclusions

This study has provided evidence for the relationship between earnings management and firms' market value in Italy. As proxy for firms' market value, I have used the change in market to book from year *t*-1 to year *t*, while as a proxy for earnings management I have used the change in total accrual (and discretionary accrual into the sensitivity analysis) from year *t*-1 to year *t*. The different institutional and accounting reporting rules (especially the close overlap between tax and financial accounting rules) allow me to study the above relationship through a point of view different from that of the United States.

I provide evidence for the Italian financial market consistent with the overvaluation hypothesis that predicts that managers of highly valued firms have strong incentive to manage earnings upward. I demonstrate that an increase in firms' market values induce managers to engage in income-increasing earnings management. When managers see the value of the company going up, they have the incentive to manipulate earnings upward to sustain the increasing in a firm's market value. In my opinion, these results can be considered as a first evidence of the validity of the agency costs of overvalued companies (Jensen, 2005) in the Italian financial market. My results are also consistent with the existing literature based on the U.S. data (Collins and Hirbar, 2000; Myers et al., 2006; Chi and Gupta, 2007; Bardrtscher, 2010; Houmes and Skantz, 2010).

In a second line of work, I have studied the association between a firm's market value and income-increasing/decreasing earnings management. As said before, results for income-increasing earnings management are consistent with the evidence provided by U.S. analysis.

Concerning the analysis on the income-decreasing earnings management, my results show that a decrease in the firm's market value (meaning negative change in market to book from year *t*-1 to year *t*) is associated with income-decreasing earnings management. Meaning, when managers see the firm's value going down, they have incentive to manipulate earnings downward. This result seems to be consistent with Badertscher's finding (2011) on the degree and duration of overvaluation and alternative methods of managing earnings. When a decrease in the firm's market value existed, managers of the previous year overvalued companies engaging in income-decreasing earnings management, probably to correct previous upward accounting manipulation, thus avoiding extreme forms of earnings management that are likely to induce accounting frauds. An alternative explanation about the previous result is related to the potential income-decreasing earnings management with the purpose of tax avoidance, a phenomenon that we have the opportunity to test in a country in which the accounting system is characterized by a close overlap between tax and accounting financial statement. Moreover, the overall results confirm the suggestion of Houmes and Skantz (2010) that market prices drive accruals in contrast to the typical model where accruals drive the market price.

Finally, I show that the main analysis is robust to several sensitivities' analyses. In particular, I verify the robustness of my results to different earnings management proxies, such as discretionary accruals as

estimated by the Jones model (1991), rather than total accruals.

My paper calls for a deeper study of the earnings management phenomenon in the insider market. Extending the analysis to other European countries, where most firms are privately held and where there is often a strong connection between tax and accounting financial statement, allows me to verify that my results could be generalized to other insider system economies, such as Germany, France, Spain, etc.

My study is not without limitations, among the most important of which is a high percentage of missing data. As said before, from a total of 2.717 possible observations, my sample was finally reduced to 1.582 firm-year observations. In order to limit the number of firms excluded from my sample, those with incomplete thirteen-year data were not disqualified from the analysis, but included in the sample firms with at least two subsequent years observations. Thus, a different number of observations were included in each of the thirteen years under study.

Moreover, I absolutely agree with Maciukaityte and Varma (2007) and Lev (2012), and as is an even more widespread belief in academic debate, earnings restatement is the best way to measure earnings management because, by definition, it is an admission by management that earnings were improperly reported. Even if I used different methods provided by the literature to measure earnings management phenomenon, they all have significant weaknesses. Alternative statistical analysis considering cases of earnings restatement, rather than aggregate accruals methodology, could provide more insight on the topic. Unfortunately, I am unable to apply this methodology to the Italian contest or to other European countries, because earnings restatements are not mandatory in Europe.

Nevertheless, I think that my results are relevant to understanding managers' behaviours in playing the earnings management "game" and in order to improve efficiency of the securities markets and protect investors' interest.

Once more, I want to underline that my findings, on the one hand, are consistent with the existing literature mainly provided by the U.S. analysis. In fact, I confirm and empirically validate that in the Italian financial market the relationship, proposed by Jensen (2005) and widely studied between earnings management and increase in firm's market value (or overvaluation hypothesis). On the other hand, my findings show a relation between a decrease in firm's market value and income-decreasing earnings management, which has never been studied before.

Notes

[1] The effect seems to be large economically: a one-standard deviation increases in total valuation error a fifteen-percent standard deviation increases in discretionary accruals.

[2] Real transaction earnings management refers to the purposeful altering of reported earnings in a particular direction by changing the timing or structuring of an operating, investing, or financing decision.

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