Universidade do Minho
Escola de Economia e Gestão

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Earnings Management Around Mergers and Acquisitions

Abril de 2016

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Earnings Management Around Mergers and Acquisitions

Tese de Mestrado em Finanças

Trabalho efectuado sob a orientação do
Professor Doutor Gilberto Ramos Loureiro

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DECLARAÇÃO

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Earnings Management Around Mergers and Acquisitions

ABSTRACT

I examine whether acquirers use earnings management to boost their stock prices prior to announcing an acquisition where stock is used as a method of payment and the consequences of such activities in terms of post-operating performance. Consistent with previous studies, I document that managers of acquiring companies engage in more aggressive earnings management in cases of stock-financed acquisitions. Moreover, in cash-financed acquisitions there is no evidence at all of earnings management prior to the announcement of the deal. To measure the long-term performance, I use two methods – the operating income scaled by sales, and the buy-and-hold abnormal returns (BHAR). Previous studies have shown ambiguous evidence about the post-operating performance. In this study, using operating income scaled by sales, I report a statistically significant decrease in the post-operating performance. Also, using BHAR, I find that acquirers involved in stock-financed acquisitions exhibit poor log-term performance after the acquisition. In contrast, I find that in cash-financed deals, acquirers tend to perform better post-acquisition. In this dissertation, I contribute to the existing literature by examining the earnings management and post-acquisition performance of European Union firms involved in mergers and acquisitions (M&A).

Keywords: Earnings Management, Discretionary Accruals, Post-Acquisition Performance, Mergers and Acquisitions

JEL classification: F30, G14, G34, M41

Manipulação de resultados entre fusões e aquisições

RESUMO

Neste estudo pretende-se detetar se nas fusões e aquisições as empresas compradoras recorrem à prática da gestão de resultados com o intuito de inflacionar os preços das suas ações, principalmente nos casos em que é realizada a compra através de ações. Além disso, também é analisado se a *performance* pós-aquisição é menor nestes casos. Os resultados indicam que a manipulação dos resultados das empresas, anterior à aquisição, é evidente nos casos em que o pagamento é feito por ações. Além disso, verifica-se que nas aquisições pagas em dinheiro não há nenhuma evidência de manipulação de resultados no ano anterior ao anúncio. Em relação ao desempenho pós-aquisição, são adotadas duas medidas – o resultado operacional dividido pelas vendas e o *buy-and-hold abnormal returns* (BHAR). Relativamente à performance operacional pós-aquisição, os estudos anteriores não são unanimes. Neste estudo são encontrados desempenhos pós-aquisições anormais estatisticamente significativos, usando a metodologia do lucro operacional dividido pelas vendas. Além disso, há evidência de que a performance de médio-longo prazo após a aquisição, medida pelos BHAR, é mais fraca para as empresas compradoras que pagaram as aquisições com ações. Isto é, após uma aquisição financiada por de ações do comprador, é experienciada uma rendibilidade anormal negativa num período até 3 anos. Contrariamente, nas aquisições financiadas em dinheiro há evidência de uma performance positiva (até 3 anos) após a aquisição. Esta dissertação contribui para a literatura existente ao analisar a existência de manipulação de resultados, e as suas consequências em termos de performance, nas empresas da União Europeia que se envolveram em fusões e aquisições.

Palavras-chave: Manipulação de Resultados, *Discretionary Accruals*, Desempenho Pós-aquisição, Fusões e Aquisições.

Classificação JEL: F30, G14, G34, M41

Index

Table Index

Figures Index

1. Introduction

After over 30 years of research in earnings management, the truth is that this is a common practice that still occurs nowadays. Managers may have incentives to manipulate their companies' earnings to artificially boost the stock prices around some corporate events that yield superior outcomes when the firms' equity is overvalued. However, this practice is not sustainable in the long-run and, eventually, in the aftermath of the event the stock price should revert to its normal value. In this dissertation, I study whether managers engage in more aggressive accrual-based earnings management prior to a stock-financed acquisition, as well as its consequences in terms of long-term post-operating and return performance.

By definition, a company's main purpose is to maximize the value its stocks and therefore the wealth of their owners. If the market could fully observe the practice of earnings management and anticipate its negative impact on future long-term performance, managers would have no incentives to engage in such activities. However, due to information asymmetries between firm insiders and outsiders, managers have some latitude to engage in earnings management without being noticed. The pressure to deliver some short-term positive outcomes, gives managers an incentive to manipulate earnings upwards to boost the firm's stock price.

Mergers and acquisitions (M&A) are faster ways of company expansion than internal, organic growth (Gaughan, 2007). It is perceived as a growth engine. Merger is a combination of two or more companies, usually a mutual decision among those firms. Accordingly to Vazirani (2015, p.3), a merger is "... a circumstance in which the assets and liabilities of a company (merging company) are vested in another company (merged company) [...], the shareholders of the merging company become shareholders of the merged company". Acquisition, accordingly to Vazirani (2015, p.4) is "... a corporate action in which a company (acquirer) buys most, if not all, of the target company's ownership stakes in order to assume control of the target firm [...] it may be friendly[1] or hostile[2] depending on a company's willingness to be acquired".

M&A historically around the world has been divided into merger waves. These waves usually start with intense merger activity followed by a period of slower merger activity. The six M&A waves recognized in the literature (Kummer & Steger, 2008) are the following (illustrated in Figure 1):

[1] When the Board of Directors agrees with the acquisition.
[2] When the Board of Directors disagrees with the acquisition but the acquirer purchases the company anyway.

- First Wave 1897 – 1907: Horizontal Mergers
- Second Wave 1919 – 1933: Increasing Concentration
- Third Wave 1955 – 1975: The Conglomerate Era
- Fourth Wave 1980 – 1989: The Retrenchment Era and Hostile takeovers
- Fifth Wave 1992 – 2002: The Age of the Strategic Mega-Merger
- Sixth Wave 2003 – 2007: The Rebirth of Leverage

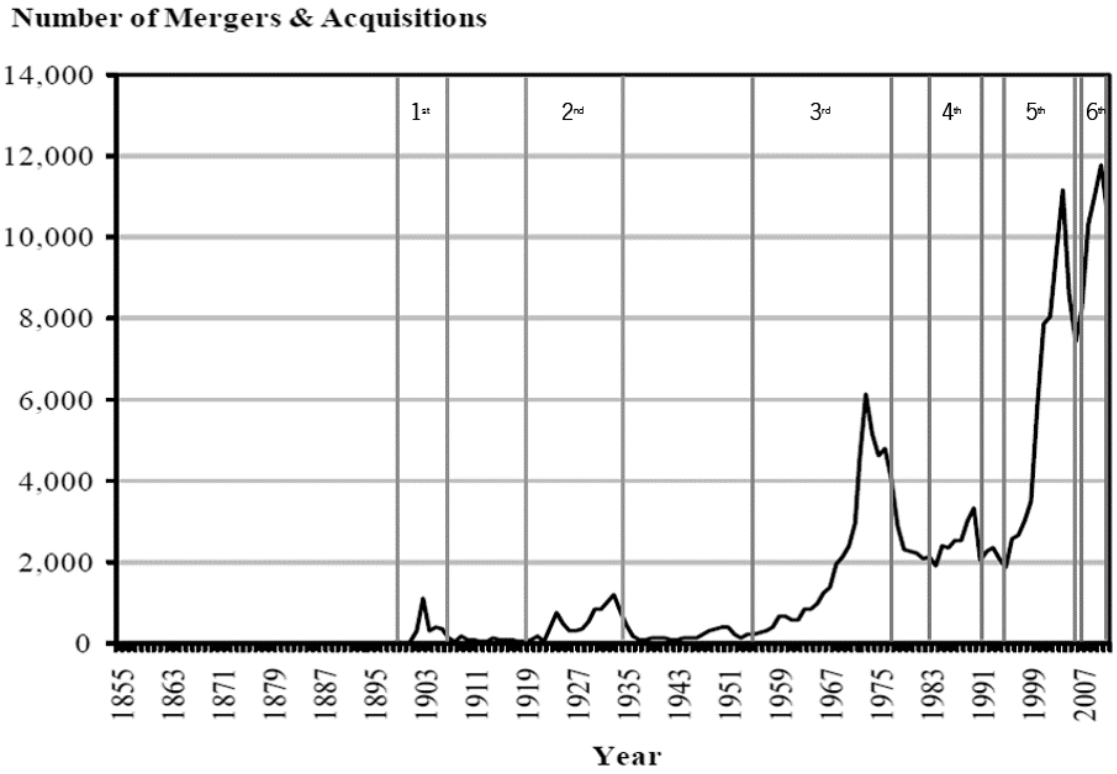

Figure 1 - Mergers and Acquisition Activity in The United States (1887 - 2007) - Adapted from "Why merger and acquisition (M&A) waves reoccur: The vicious circle from pressure to failure" by C. Kummer and U. Steger (2008), Strategic Management Review, 2(1), p. 44.[3]

Vazirani (2015) and Alexandridis, Mavis and Travlos (2011) also recognize these six waves, although, with slight differences to the years mentioned by Kummer and Steger (2008).

The last wave ended when the subprime crisis arose (Aalbers, 2009). Each one had higher volume than the previous ones and were much more geographically dispersed (Kim & Zheng, 2014; Kummer & Steger, 2008).

Not disregarding the previous waves, the last one also affected Europe. Since my study is based in European Union countries from 2000 forward, the last M&A wave is fully included in my study. As

[3] The sources and the justification of this wave's distinction are detailed in the Kummer and Steger (2008) study.

Aalbers (2009) states, “The crisis does not just hit investment banks on Wall Street, European banks and pension funds [...], also individual investors and small towns around the globe”.

M&A are typically paid in cash, stock, or a combination of these two. In acquisitions that involve stock as a method of payment, the acquirer can extract larger benefits from the deal when its stocks are overvalued. For instance, when a stock-financed deal is completed, the acquiring company gives a specific number of shares for each share of the target company. Initially, the acquiring and target firms agree on a specific purchase price. The number of shares from the acquiring firm exchanged for each share of the target firm is determined by the price of the acquiring firm’s stock when the merger agreement is reached, given the agreement upon the target firm purchase price. As a result, the higher the price of the acquiring firm's stock on the agreement date, the fewer the number of shares that must be issued to purchase the target firm (Erickson & Wang, 1999).Therefore, managers of acquiring firms may have a strong incentive to inflate earnings, and therefore, artificially increase the market value of their stocks prior to the acquisition.

When firms inflate financial statements by managing their earnings, they could be expecting it to be reverted in the long-run after the deal is completed (L. J. Cohen, Cornett, Marcus, & Tehranian, 2014; Dechow, Sloan, & Sweeney, 1996; Paul Healy, 1985).

Pungaliya and Vijh (2009, p.2) state an interesting idea, “If academic researchers can detect earnings management in broad samples, then it is not entirely clear why target managers and investment bankers with greater access to firm-specific and industry-specific information cannot do the same”. This is probably explained by cash bonuses (side payments), golden parachutes or board membership position given to the target’s managers in the event of an acquisition (Hartzell, Ofek, & David, 2004).

Using a sample of 28 EU countries (where 2,763 acquirers made 5,982 acquisitions), over the period January of 2000 until December of 2014, I analyze if the likelihood of a stock-financed acquisition is higher when the acquirer engaged in earnings manipulation prior to the acquisition announcement. Consistent with my hypothesis, my findings show significant positive earnings management in stock-financed acquisitions. Furthermore, I find negative earnings management in the cash-financed acquisitions.

I analyze both the operating and return performance from two years preceding the acquisition up to three years following the acquisition. More precisely, I check if the long-term post-acquisition

performance of stock-financed acquisitions is weaker in cases when the acquiring company engaged in earnings management prior to the acquisition. I show that stock-financed acquisition experience worse post-operating performance than the cash-financed acquisition with statistically significance of 10% level. I show that stock-financed acquisitions experience worse post-operating performance than cash-financed acquisitions, with statistical significance of 10% level.

I also find that firms who engaged in earnings management in the year prior to the acquisition, experience a significant decrease in the long-term post-acquisition return performance (BHAR) in average, of 4, 5 and 6 percentage points (UK acquirers experience slightly better returns performance than the rest of the European Union countries). Consistent with this view, firms who engaged in earnings management in the year prior to a stock-financed acquisition, experience a decrease in average of 12, 20 and 37 percentage points in the BHAR from the year of the acquisition to the next 1, 2 and 3 years, respectively.

Firms who did not engage in EM in the year prior to a cash-financed acquisition, experience an increase, on average, of 9, 15 and 17 percentage points in the BHAR from the year of the acquisition to the next 1, 2 and 3 years, respectively.

The purpose of this dissertation is to understand if enterprises involved in these earnings manipulation practices have actually achieved what they desired or are simply delaying the sinking of the "ship". This is a vital topic in finance, as it can cause significant impact on the financial market in general. This dissertation aims to increase the robustness of the knowledge on the use of earnings management in companies involved in M&A.

The remainder of this dissertation is organized into four main parts. After this introduction, the second section - Literature Review - explores the most fundamental studies about earnings management, M&A, and long-term performance. The third section - Data and Methodology - describes the sample used in this research, data sources, empirical methodology, as well as the process of collecting and processing the data necessary to carry out this project. The fourth section - Results - contain the most fundamental analysis made and the respective results. The fifth and last section - Conclusions - covers the most relevant conclusions and the limitations of the dissertation.

2. Literature Review and Hypotheses Development

2.1. Earnings Management

According to Dechow and Skinner (2000), earnings management, unlike fraud, involves the selection of accounting procedures and estimates that conform to generally accepted accounting practices. Dechow and Skinner (2000) classify the types of earnings management into three, accruals management, real earnings management and fraudulent accounting.

P. Healy and Wahlen (1999) state that earnings management occurs when managers, through legal procedures, change the financial statement, so the investors obtain a different (or incomplete) view of the economic situation of the company.

According to Amat, Blake and Dowds (1999), earnings management consists on the manipulation made on the accountancy information, taking advantage of non-specific rules and possible alternatives that the manager has at his disposal on the different assessment practices used. Levitt (1998) states that managers exploit the flexibility in financial reporting with the objective of meeting the earnings expectations.

The fraudulent accounting involves accounting choices that violate the International Financial Reporting Standards (IFRS)[4]. Association of Certified Fraud Examiners (2014) mention that financial statement fraud has a frequency of only 9% (of the total occurrence of occupational fraud[5]), but it has a median loss of $1 million (five times higher financial impact than the type of fraud that causes the most financial impact, corruption).

Accordingly to the Transparency International (2015), out of a total of 177 analyzed countries, the EU has 4 countries in the top 5 countries with less Corruption Perceptions Index (CPI)[6]. This Index scores range on a scale from 0 (highly corrupt) to 100 (very clean). Accordingly to Transparency International (2015), EU also has 86% of the countries with CPI above 50 (G20 has 47% above 50 and the World average is 57% above 50 CPI).

[4] A set of accounting standards developed by the International Accounting Standards Board (IASB), mainly adopted for the preparation of public company statements (IFRS, 2016).
[5] Occupational fraud is classified into three main categories: Asset misappropriation, corruption and financial statement fraud.
[6] CPI is an indicator calculated by the Transparency International Company and Ernst & Young.

According to Perols and Lougee (2011), there is a strong correlation between earnings management and the financial statement frauds. Using a sample of 54 fraud and 54 non-fraud firms, the authors find that fraudulent firms are more likely to have managed earnings in prior years.

Deangelo (1986) and P. Healy (1985) studies, are one of the first in earnings management that address the measurement of discretionary accruals. They state that when firms inflate financial statements by managing their earnings, they increase the generation of accruals income. Dechow et al. (1996) and Lee, Ingram and Howard (1999) argue that companies that increased income accruals in earlier years, must deal with the consequences of the accruals reversal, and most of them commit fraud to offset the reversals.

Beneish (1999) states that increasing discretionary accruals in prior year incomes, leads the company to run out of ways to manage earnings in further years. Thus, managers might opt for fraudulent activities when they are confronted with subsequent earnings reversals and the decreasing flexibility of earnings management.

Real earnings management[7] have also been studied in the last few years, but not in so many studies. And was done almost exclusively in combination with accruals-based ones (Zarowin, 2015).

2.1.1. Discretionary Accruals and Non-Discretionary Accruals

Earnings management research is essentially focused on the accruals' analysis (Dechow, Sloan, & Sweeney, 1995). As discretionary accruals are the accruals which can be manipulated, it is how it is measured the earnings management. Splitting the accruals into expected (non-discretionary) and unexpected (discretionary) has a significant role. The most appropriate model for computing discretionary accruals is the Modified-Jones (1991) model, according to the existing literature. Dechow et al. (1995), and Botsari and Meeks, 2008), state that this model is the most suitable to detect earnings management. Besides that, Guay, Kothari, and Watts (1996) present evidence that shows that only the Jones (1991) and Modified-Jones (1991) models appear to provide reliable estimates of discretionary accruals.

[7] Roychowdhury (2006) study has further information on this topic.

Moreover, Vladu and Cuzdriorean (2014) state that earnings management studies over the last decade are mostly developed applying accruals-based models. Despite new models being developed and tested by researchers, as mentioned before, they are still based on the accruals model. The ideal goal would be to achieve a model that perfectly detects earnings management. New versions keep being tested, but most are derived from the Jones (1991) model.

According to M. Jones (2011), the accruals represent the non-cash flow elements of the accounts and can often be manipulated by the managers. These accruals represent elements like inventory, depreciation, trade payables and trade receivables.

The total accruals are estimated subtracting the reported accounting earnings by the cash flow from operations. Then are separated into two branches, the discretionary and non-discretionary accruals. Managers can only adjust the discretionary accruals and not the non-discretionary accruals. The discretionary accruals can be manipulated because they are under a certain level of arbitrariness (Jones, 2011). Thus the earnings management is understood as the process by which managers can manipulate the financial statement in order to represent what they wish to have happened or what the investors were expecting (rather than what actually happened) during a certain period.

On the amortization context, a discretionary accrual can be, for instance, a change to the policy for the calculation of the amortization expense by modifying the estimated useful life measurement. The non-discretionary accrual (over which managers do not have control) would be a change to the amortization expense.

Another example of a discretionary accrual can be the increase in inventory, which would incorporate fixed overhead expenses to inventory rather than charging them off as costs. On the other side, the non-discretionary accruals can be the inventory accumulation due to anticipation of increased demand.

2.1.2. Motivations and Consequences of Earnings Management

Jones (2011), argue that there are several reasons that lead managers to adopt practices of earnings management in companies. The main objective is either to cover and benefit the company, or to cover and benefit themselves. In other words, the incentives can be both external and internal factors.

Managers tend to manipulate earnings to their benefit when their position is under threat. It can also be used to obtain larger compensation by increasing the value of their equity-based compensation schemes, such as executive stock options (ESO)[8]. In other words, managers can improve their (short-term) reputation and extract higher rents if the company continues to show better results year after year.

Another reason for the adoption of earnings management practices is to respond to market expectations. Firms may feel the need to beat the analysts' forecasts (especially in the case of bad projections). By doing so, firms will create the illusion of having good prospects and increase the confidence of investors. The same type of incentives may exist in situations when the firm is struggling to meet its debt covenants (DeFond & Jiambalvo, 1994; P Healy & Wahlen, 1999) and need additional external financing (Teoh, Welch, & Wong, 1998). Other situations may lead to the practice of earnings management include specific contracts such as bonus plans (J. Gaver, K. Gaver, & Austin, 1995) and specific circumstances such as earnings decreases or losses (Burgstahler & Dichev, 1997).

By analyzing firms under SEC investigations (total 92 firms) between 1982 and 1992, Dechow et al. (1996) state that earnings management behavior lead to a 9% of stock price decline in the two years following the announcement of the earnings management investigation.

In fact, earnings management are not only present in M&A. They are also common in seasoned equity offerings (SEOs) and initial public offerings (IPOs).

Teoh et al. (1998), in relation to SEOs, state the evidence of a relation between earnings management (based on a variation of Modified Jones (1991) model) and the long-run SEO issuer performance. The relation is that the issuers who engage in earnings management have lower post-issue long-run abnormal stock returns and net income. Using as sample, all the seasoned equity issuers from 1976 to 1989 (total 1,265).

Still, Cohen and Zarowin (2010), with a sample of completed US offers over 1987 to 2006 (total 1,551), state that SEO firms engaged in earnings management (based on Jones (1991) model),

[8] ESOs gives to an employee (executive) the legal right, but not the obligation, to buy a certain number of shares of the company at a predetermined price in a future date.

suffer the respective consequences, mainly, the operating underperformance (due the accruals reversal).

More recently, Fauver, Loureiro and Taboada (2015) state the evidence of earnings management (based on Modified Jones (1991) model) on SEOs, using a sample based on EU countries, during the period of 1999 to 2012 (total 1,352). They show the significant increase in crash risk for the issuers that engage in earnings management.

Furthermore, Loureiro and Silva (2015) also state that cross-delisted firms that manipulate earnings (based on Modified Jones (1991) model) prior to an SEO increase the probability of a stock price crash subsequently. In this study, the sample is composed by 583 cross-delisted firms from U.S. stock exchanges markets (38 countries), between 2000 and 2012.

As mentioned before, the presence of earnings management also exists in IPOs. Roosenboom, Van der Goot, and Mertens (2003), with a sample of Dutch IPO firms from 1984 to 1994 (total 64), show that firms with high levels of earnings management (based on Jones (1991) model) tend to exhibit declines in stock returns in the year following the IPOs.

Still, Chiraz and Anis (2013), based on a sample of French IPOs over the period 1999 to 2007 (total 139), state that the firms associated with earnings management (based on Modified Jones (1991) model) in the IPO process tend to suffer from poor returns and delist[9] due the performance failure subsequently to the IPO.

Also, Bao, Chung, Niu and Wei (2013), suggest that IPO firms manipulate their earnings (based on Modified Jones (1991) model) in the IPO year to inflate reported earnings. This study is based on a sample of US IPO firms from 1990 to 2007 (total 1,014).

More recently, Alhadab, Clacher and Keasey (2015), with a sample based on UK IPO firms from 1998 to 2008 (total 570), argue that these firms engaged in earnings manipulation (based on Modified Jones (1991) model) during the IPO year. Besides that, the firms who present higher levels of earnings management have higher probability of IPO failure and lower survival rates in subsequent periods.

[9] Delisting includes violating regulations, and/or failing to meet financial specifications (minimum share price, minimum sales level, certain financial ratios, etc.).

Cases with evidence of earnings management around M&A are presented in the next section in detail.

2.1.3. Earnings Management on Mergers and Acquisitions

According to the literature, it is known that earnings management are present in some M&A. It is particularly prevalent when stock is used as a payment, which may entice the acquirer to manipulate its stock prices (Botsari & Meeks, 2008; Erickson & Wang, 1999; Rahman & Bakar, 2003). The acquiring firm has an incentive to increase earnings preceding to the merger, to raise the market price or the appraised price[10] of its stock. Also, that the companies do that by aggressively using discretionary accruals to temporarily inflate the purchasing power of their stock, therefore reducing the effective cost of the acquisition (Erickson & Wang (1999).

In the context of M&A, Erickson and Wang (1999), is the first to test for earnings management in acquiring firms involved in stock-financed M&A, recognizing the possible incentives for firms that conduct stock-financed acquisitions to manipulate their earnings (based on a model developed by themselves, but based on Jones (1991) model). They state that when an acquisition is stock-financed, the exchange ratio (number of shares given by acquirer for each share of the target company), is inversely related to the acquiring firm's stock price. In their study, with a sample of 55 stock-financed acquisitions occurring between 1985 and 1990 in US, state that firms conducting stock-financed acquisitions do manage their earnings upwards before their acquisitions. In contrast, they report no evidence of earnings management in a control group of 64 cash-financed acquisitions.

Heron and Lie (2002) come to a different conclusion from Erickson and Wang (1999). They sustain that acquiring firms, prefer to pay for their acquisitions with stock when those are overvalued, and to pay with cash when their stocks are undervalued. However, with a sample of US market's M&A from 1985 to 1997 (total 859, where around 50% were entirely stock-financed), they find no evidence that acquirers engage in earnings management (based on Modified-Jones (1991) model) prior to acquisitions. They argue that this difference to Erickson and Wang, 1999 could be due to different samples or different procedures estimating the accruals (different models).

[10] The appraised stock value is defined by a third party company, usually an investment bank, engaged by the target company. It evaluates a variety of information of the acquiring firm in order to determine the fair exchange ratio.

The remaining literature focusing on stock-financed acquisitions is consistent with Erickson and Wang (1999). The results from Rahman and Baka (2003) suggest that stock-financed acquisitions manage earnings upwards in the year prior to the acquisition (based on Jones (1991) and Modified-Jones (1991) models). They use a total of 120 Malaysian M&A over the period 1991 to 2000 as a sample.

Louis' (2004) study includes 373 M&A made between 1992 and 2000 of US companies, where 236 (63% of total) are only stock-financed. The conclusions suggest that earnings management (based on a variation of Jones (1991) model) are positive and statistically significant for acquirers that made acquisitions with stock previous to the acquisition; second, discretionary accruals are insignificant for acquirers that made acquisitions with cash.

Botsari and Meeks (2008) with a sample based on the UK M&A between 1997 and 2001 (total of 176), suggest the presence of earnings management (based on Jones (1991) model and Modified Jones (1991) model) on stock-financed acquisitions.

More recently, Vasilescu and Millo (2016) state that in a sample of 229 M&A occurred in UK between 1990 to 2008, firms in general engage in earnings management (based on Modified Jones (1991) model) prior to M&A. This study does not make a distinction about the method of payment, but instead, it tests if earnings management are more evident in cross-industry or cross-border M&A. The results suggest that geographic diversification is linked to higher earnings management. However, the results are not statistically significant.

Earnings management appears to be quite common based on previous studies. Despite that, acquiring firms may choose not to do it. Agency theory states that for earnings management to occur, the cost of not doing it must exceed the cost of doing it (Watts & Zimmerman, 1990). What is observed is that most studies show evidence for the aggressive use of earnings management.

2.2. Post-Acquisition Performance on Mergers and Acquisitions

In relation to post-acquisition performance in M&A, as mentioned before, an M&A can turn out to be profitable and beneficial to the firms, as well as devastating and detrimental. If the acquiring company engages in earnings management prior to the acquisition, it can generate serious problems to its post M&A performance. Some studies argue that the method of payment used by the acquirer companies is directly related to the companies having been engaged or not in earnings management prior to the acquisition. Based on the literature, both long-term post-operating

performance as well as long-term return performance (BHAR) are two alternatives to test the long-term post-acquisition performance of the M&A.

2.2.1. Post-Acquisition Operating Performance

In relation to the long-term post-operating performance in M&A, Hotchkiss and Mooradian (1998), state the evidence of significant positive changes on the testing sample, comparing to the control sample (non-bankrupt targets), which shows no significant improvements from the year prior to the acquisition to years +1 and +2. However, no distinction from stock, or cash acquisitions was made. The target firms are bankrupt targets[11], the total M&A on their sample is 55, occurred in US, during 1979 and 1992. Operating performance scaled by sales (also scaled by assets, which presented similar conclusions) is the method which they pointed out as being the most appropriate methodology to test the operating performance in M&A.

Ghosh (2001) with a sample based on 315 (147 paid in cash, 111 pain in stock, and the remaining 57 with a mix of both) M&A occurred in US between 1981 and 1995, find no evidence that operating performance increase following an M&A comparing with benchmark composed by firms matched by pre-acquisition performance and size. However, the performance is significantly higher in cash acquisitions and stock experience a decline following an M&A. The method used is operating income scaled by assets

Heron and Lie (2002), state that neither the cash nor stock payment methods convey information about the future operating performance of the acquirers. The method used is operating income scaled by sales and operating income scaled by assets. The acquirers that pay with stock, outperform their industries when compared to the ones that pay with cash, but only by slightly larger margins, however. Also, the authors argue that acquirer firms exhibit higher levels of operating performance when buying with stock, and that they continue to exhibit superior operating performance post-acquisition, than the control firms (with similar pre-acquisition operating performance). In this study, the sample is composed by 859 US acquisitions (342 paid in cash, 427 pain in stock, and the remaining 90 with a mix of both) between 1985 and 1997.

Still in relation to operating performance, Kruse, Park and Suzuki (2007), with a sample of 69 M&A from Japan between 1969 and 1999, state the evidence of improvements in operating

[11] The bankrupt targets were identified based on the firms which filed the Chapter 11

performance for their entire sample (from year -5 and -1 to +1 and +5), however no distinction from stock, or cash acquisitions was made. The method used is operating income scaled by sales and operating income scaled by assets.

More recently, (Rao-Nicholson, Salaber, & Cao, 2016) suggest that in their sample of 57 M&A occurred in ASEAN[12] countries between 2001 to 2012, the operating performance tends to decline in the 3 years following an M&A. The method used is operating income scaled by sales and operating income scaled by assets. And consistent with Heron and Lie (2002) and Kruse et al. (2007) the acquisitions outperform their industries their respective industry benchmark before and after the M&A. In this study, no distinction from stock or cash acquisitions was made.

According to Barber and Lyon (1996), scaling the operating income by sales is the most appropriate measure of operating performance in M&A. Heron and Lie (2002) state that this method should be immune against the method of accounting[13] or method of payment[14] on the M&A, so researchers tend to use this methodology to test the operating performance in M&A.

2.2.2. Buy and Hold Abnormal Return

On the long-term return performance, Agrawal, Jaffe and Gershon (1992), find statistically significant decrease in their sample (they do not distinguish from stock, or cash acquisitions), a loss of about 10% over the 5 years post-acquisition. The used sample is composed by 937 M&A which occurred in US during 1955 to 1987.

Also, in relation to long-term return performance, Mitchell and Stafford (2000) analyze the BHAR of M&A involved companies 3 years after the acquisition. The analyzed sample is composed by 4,911 US events (2,421 SEOs and 2,193 acquisitions), from 1958 to 1993. The result points to the existence of underperformance by the M&A, comparing to the benchmark portfolios (25 value-weight non-rebalanced[15] portfolios). However, they find that stock-financed acquisitions perform worse than the cash-financed ones.

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[12] ASEAN - Association of Southeast Asian Nations, has 10 member states, Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

[13] The methods of accounting used in M&A is usually Pooling of Interests or Purchase Method. The main difference is that Purchase Method allow the company to charge for goodwill (reputation of the business). Using the Pooling of Interests the company is evaluated by book value rather than market value.

[14] The method of payment used in M&A is usually cash, stock or a combination of both.

[15] Rebalancing is the process of realign the weights of the portfolios (to maintain the original level of asset allocation).

Louis' (2004) study includes 373 mergers made between 1992 and 2000 of US companies, where 236 (63% of total) are exclusively stock-financed. Its results suggest that the long-term return performance (BHAR) is negative and statistically significant for the stock-financed acquisitions, and positive and statistically significant for the cash-financed acquisitions on the year +1, +2 and +3 following the acquisition.

Long-term performance is still a controversial subject. It is a topic that still has many branches, each with its limitations, which is why researchers are still split on different ways to measure it. That makes it important to analyze the context and the sample used, in order to choose the most appropriate performance measure.

2.3. Hypotheses to test

The literature referred above, are essentially based on the US market or in a specific country, and it shows that, a stock-financed acquisition is more likely to use earnings management to inflate the purchasing power of the company's stocks. Thus, for the first part of this dissertation, I formulate the following testable hypothesis:

H1: The likelihood of a stock-financed acquisition is higher when the acquiring firm engaged in earnings management prior to the acquisition announcement.

Besides the importance of knowing whether a company was engaged in earnings management prior to the acquisition announcement, it is also important to know if that practice reverts in the long-run and leads to poor post-deal operating and/or return performance. As contested in the most of cases in the literature review, is expected that acquirers experience normal long-term post-acquisition performance around the cash-financed acquisitions, and negative around the stock-financed acquisitions. Based on this expectation, for the second part of this dissertation, I formulate the following testable hypothesis:

H2: The long-term post-acquisition performance of stock-financed acquisitions should be weaker in cases when the acquiring company engaged in earnings management prior to the acquisition.

3. Data and Methodology

3.1. Data and Sample

The sample used in this research comprises European Union acquirers that were involved in M&A between 2000 and 2014.

This study intends to fill a gap in the literature when it comes to its earnings management around M&A in European Union countries. As mentioned in the literature review, most studies focused on earnings management in M&A are analyzing the US market (Erickson & Wang, 1999; Heron & Lie, 2002) and UK (Botsari & Meeks, 2008; Vasilescu & Millo, 2016). Another objective of this study is to analyze the post-acquisition performance in M&A, which once again, as far as I know, no other study does for EU countries (see section 2.2).

Following the literature (e.g., Bertrand & Zitouna, 2008; Moeller, Schlingemann, & Stulz, 2004; Rossi & Volpin, 2004) an acquisition is defined as a target when the percentage owned before the acquisition is less than 50% and after the acquisition is higher than 50%.

Also, although the acquiring companies are restricted to EU nations, no restriction is imposed to the target companies. All the deal specific data are from Thomson Financial' Securities Data Company's (SDC) Platinum Database. The necessary financial statement data (firm specific variables) to compute the earnings management and the post-operating performance are from Thomson Financial' DataStream/ WorldScope Database, in dollar currency.

For a firm to be included in the sample, I follow the existing literature (e.g., Botsari & Meeks, 2008; Heron & Lie, 2002; Louis, 2004; Loureiro & Silva, 2015; Loureiro & Taboada, 2015; Vasilescu & Millo, 2016), and apply the following criteria:

- The M&A announcement occurs between January 1st of 2000 and December 31st of 2014 (15 years);
- The data must have the accounting information necessary to compute the discretionary accruals and long-term post-acquisition performance (firm specific variables from 1998 to 2015 in order to compute lead and lagged variables);
- The acquirer is established in one of the European Union countries (28 countries), no restriction about the target;
- The observations gathered from SDC have to include the Sedol of the acquirer;
- The transaction is completed, and the M&A deal value was above $1 Million;
- Exclude privatizations, leveraged buyouts, spin-offs, pending deals and competing bids.

- The percentage owned by acquirer after the M&A is at least 50%;
- Only assume the first acquisition for each acquirer in the same year (to avoid clustered observations);
- Different target and acquirer companies, to avoid situations in which the acquirer is acquiring back his company (self-acquisitions);
- The Percentage of Stock and/or Percentage of Cash variables were not empty, because it is not possible to recover that information (explained in Appendix A);
- Exclude acquirers from the financial industry due to their unique disclosure requirements (SIC codes[16] between 6000 and 6999)[17].

As the interval between M&A announcement dates and effective dates is typically several months long, and since the effective date is not always available, the announcement date is assumed as the completion date, a common practice in the literature. To mitigate the impact of outliers on the sample, all variables are winsorized at 1% percentile and 99% percentile (Botsari & Meeks, 2008; Kruse et al., 2007; Louis, 2004; Loureiro & Silva, 2015). Also, to make observations more comparable over time, all the monetary variables were adjusted to real values according to the Consumer Price Index 2014 USD prices[18] (Bureau of Labor Statistics, 2015).

The total M&A deals collected from SDC was 46,467. The next step was to merge it with the data from WorldScope. The variables are described in Appendix A. After merging, there were 2763 acquirers, who made 5,982 acquisitions. However, the sample size may vary accordingly to each estimation procedures.

Over 58% of the deals involve acquirers and targets with the same 2-digit SIC code and over 47% with the same 3-digit SIC code. Therefore, only half of the M&A are between targets and acquirers of different industries (conglomerates). Also, around 52% of the acquisitions involve targets and acquirers located in the same country.

It is important to mention that in my sample more than 300 observations do not have the complete data about the amount of percentage of stock or cash used to finance the acquisition. In this cases the sum of the two percentages of cash and stock used to finance the M&A do not totalize 100%

[16] SIC is the Standard Industrial Classification – for the left to right, the 1st digit identifies the division, the 2nd digit identifies the major group, the 3rd digit identifies the industry group and the 4th digits identifies the industry.
[17] The 6000-6999 group (financial sector) are excluded because they have different regulations (e.g., Botsari & Meeks, 2008; Louis, 2004; Loureiro & Taboada, 2015).
[18] I chose the Consumer Price Index for all urban consumers (CPI-U), because it covers more population, around 87%, it is available at Bureau of Labor Statistics.

(which is expected, since it is the payment for the acquisition as a whole). In others observations the total sum of the method of payment were also lower than 100%. However, it also makes sense to in some cases it does not totalize 100% due some deals that can be made (e.g., cases in which payments in installments were agreed).

Table 1 provides a distribution of my sample per 1-digit SIC (Panel A), per year and payment method (Panel B), and per acquirer country (Panel C). Note that in the Panel A, the SIC codes between 6000 and 6999 are not present due to regulation differences in relation to other industries. In the Panel B, I present the time-series of my sample split by the year of announcement and method of payment.

Also, as mentioned before, the M&A waves are visible in the Panel B. The period of 1992 to 2002 is the 5th M&A wave. The decline of M&A activity in the year of 2000 to 2001 (decrease of 4 percentage points) and of 2001 to 2002 (decrease of 1.80 percentage points) can be observed. Despite it being a low increase, there was an growth in M&A activity from 2003 to 2007, the 6th M&A wave (Kummer & Steger, 2008). 100% cash payments are more than 50% of my sample and 100% stock payment are only around 12%. Panel C, it is noticeable how the presence of the UK is very evident in M&A, since around 57% of the sample is UK acquirers. This is a possible justification to the existence of many studies developed in this country.

Table 1 - Data Distribution

Panel A: 1-digit SIC distribution			
Division	**1-digit SIC code**	**Freq.**	**%**
Agriculture, Forestry, Fishing	0	24	0.4 %
Mining, Construction	1	531	8.88 %
Manufacturing[19]	2	956	15.98 %
Manufacturing[20]	3	1,144	19.12 %
Transportation, Public Utilities	4	714	11.94 %
Wholesale and Retail Trade	5	476	7.96 %
Services[21]	7	1,620	27.08 %
Services[22]	8	513	8.58 %
Public Administration	9	4	0.07 %
Total		**5,982**	**100%**

[19] SIC codes between 20 and 29 include food, tobacco, textile, furniture, chemicals, petroleum, etc.
[20] SIC codes between 30 and 39 include leather, stone, glass, metal, electronic, computer equipment, etc.
[21] SIC codes between 70 and 79 include personal, business, automotive, hotels, camps, etc.
[22] SIC codes between 80 and 89 include health, legal, educational, social, museums, art galleries, etc.

Panel B: M&A Time distribution and Payment method

	Full Sample			100% Cash Payment		100% Stock Payment		Mixed Payment	
Year	**Total**	**%**	**Δ% t to t_{-1}**	**N**	**% of Total**	**N**	**% of Total**	**N**	**% of Total**
2000	739	12.4%		318	5.3%	143	2.4%	278	4.6%
2001	505	8.4%	-4.00%	228	3.8%	70	1.2%	207	3.5%
2002	397	6.6%	-1.80%	238	4.0%	43	0.7%	116	1.9%
2003	315	5.3%	-1.30%	164	2.7%	43	0.7%	108	1.8%
2004	361	6.0%	+0.70%	169	2.8%	46	0.8%	146	2.4%
2005	486	8.1%	+2.10%	238	4.0%	52	0.9%	196	3.3%
2006	508	8.5%	+0.40%	249	4.2%	57	1.0%	202	3.4%
2007	537	9.0%	+0.50%	282	4.7%	46	0.8%	209	3.5%
2008	373	6.2%	-2.80%	206	3.4%	36	0.6%	131	2.2%
2009	254	4.2%	-2.00%	130	2.2%	33	0.6%	91	1.5%
2010	324	5.4%	+1.20%	168	2.8%	37	0.6%	119	2.0%
2011	315	5.3%	-0.10%	179	3.0%	30	0.5%	106	1.8%
2012	285	4.8%	-0.50%	158	2.6%	32	0.5%	95	1.6%
2013	268	4.5%	-0.30%	136	2.3%	23	0.4%	109	1.8%
2014	315	5.3%	+0.80%	160	2.7%	33	0.6%	122	2.0%
Total	**5,982**			**3,023**	**50.5%**	**724**	**12.1%**	**2,235**	**37.4%**

Panel C: M&A Place distribution

Acquirer Country	**Freq.**	**Percent**	**Cum.**
United Kingdom	3,413	57.05%	57.1%
France	463	7.74%	64.8%
Sweden	462	7.72%	72.5%
Germany	305	5.10%	77.6%
Italy	204	3.41%	81.0%
Netherlands	192	3.21%	84.2%
Finland	177	2.96%	87.2%
Ireland-Rep	143	2.39%	89.6%
Spain	137	2.29%	91.9%
Poland	114	1.91%	93.8%
Denmark	96	1.60%	95.4%
Belgium	91	1.52%	96.9%
Greece	49	0.82%	97.7%
Austria	36	0.60%	98.3%
Portugal	27	0.45%	98.8%
Luxembourg	25	0.42%	99.2%
Cyprus	18	0.30%	99.5%
Czech Republic	10	0.17%	99.7%
Slovenia	8	0.13%	99.8%
Hungary	6	0.10%	99.9%
Lithuania	2	0.03%	99.9%
Romania	2	0.03%	100.0%
Croatia	1	0.02%	100.0%
Estonia	1	0.02%	100.0%
Total	**5,982**	**100%**	

Panel A shows the distribution by 1-digit SIC. Panel B shows the distribution by year of announcement of M&A and by method of payment. Panel C Stock payment refers to acquisitions which were completely financed with stock. Cash payment refers to acquisitions which were completely financed with cash. Mixed payment refers to acquisitions which were financed with stock and cash. Around 50% of the sample were acquisitions cash-financed (3,023 M&A) and 12% were stock-financed (724 M&A). 28 countries belong to EU, although only 24 countries are present in my sample (Panel C). Malta, Latvia, Slovakia and Bulgaria were excluded from my sample due to they fail to meet some necessary requirements (requirements is presented in the next section).

3.2. Methodology

3.2.1. Calculation of the Earnings Management

According to the existing literature, the most appropriate methodology to measure earnings management is to compute total discretionary accruals (Teoh et al., 1998; Dechow et al., 1995; Botsari & Meeks, 2008). Among the various discretionary accrual models, the Jones (1991) and the Modified-Jones (1991) models are the ones that perform the best (Dechow et al., 1995). Also, Botsari et al. (2008) state that the Modified-Jones (1991) model is better to detect earnings management, even the more subtle cases.

According to Vladu and Cuzdriorean (2014) studies about earnings management over the last decade are mostly developed applying accruals-based models. Despite new models being developed and tested by researchers, they are still based on the Jones (1991) model.

The main goal is to achieve a model that perfectly detects earnings management. That's why new versions are always being tested. Real earnings management have also been studied in the last few years, but only in a few studies. And that was done with accruals-based models studies, or almost exclusively in combination with accruals-based ones.

3.2.1.1. Discretionary Total Accruals

The Jones (1991) model (and the modified version) is a cross-sectional model. I use firms in the same country and in the same 1-digit SIC code to estimate the total discretionary accruals. I use at least 10 observations in each 1-digit SIC group per year to obtain more reliable parameter estimates (e.g., Erickson & Wang, 1999; Jeter & Shivakumar, 1999; J. Jones, 1991; Teoh et al., 1998). On my study, I only apply the modified version[23] since it produces similar results as other versions, as documented in previous studies (e.g., Botsari & Meeks, 2008; Dechow et al., 1995; Rahman & Bakar, 2003).

According to the previous literature (e.g., Dechow et al., 1995; Heron & Lie, 2002; Kothari, Leone, & Wasley, 2005; Loureiro & Silva, 2015) the total value of discretionary accruals is used as a proxy for earnings management. It suggests that managers distort reported data in case of high values of discretionary accruals. In other words, they manipulate the financial reports, masking the firms'

[23] The only change relatively to the original model is that the change in revenues is adjusted for the change in receivables in the same period.

true economic performance (Dechow & Skinner, 2000). Sloan (1996), refers to discretionary accruals as a "measure of financial reporting opacity because it masks some information about the firm's fundamentals" (as cited in Loureiro and Silva, 2015, p.3). All variables in the accruals model are scaled by lagged total assets to reduce heteroskedasticity (e.g., Erickson & Wang, 1999; J. Jones, 1991; Teoh et al., 1998).

To start, the following regression is estimated for a 1-digit SIC group per country and year. The Modified-Jones (1991) model is the following one and is the model that I use in this dissertation (J. Jones, 1991):

$$\frac{TotAcc_{it}}{TA_{it-1}} = \alpha \frac{1}{TA_{it-1}} + \beta_1 \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \varepsilon_{i,t}, \qquad (1)$$

Where, for firm i in year t:

TotAcc = is the change in non-cash current assets minus the change in net income and cash flow from operations;

ΔREV = revenues in year t less revenues in year t_{-1};

ΔREC = accounts receivable in year t less revenues in year t_{-1};

PPE = gross property plant and equipment;

TA_{t-1} = Total assets at t_{-1}.

Then it is necessary to estimate the nondiscretionary accrual, obtained using estimates from the regression above (2):

$$NDTACC_{it} = \hat{\alpha} \frac{1}{TA_{it-1}} + \widehat{\beta_1} \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} + \widehat{\beta_2} \frac{PPE_{it}}{TA_{it-1}} \qquad (2)$$

Next, I compute the discretionary accruals (DISCACC). As mentioned above, this is what is used to analyze if a company is practicing earnings management or not.

$$DISCACC_{it} = \frac{TOTACC_{it}}{TA_{it-1}} - NDTAC_{it} \qquad (3)$$

The variable codes[24] are indicated in Appendix A

3.2.1.2. Probit Multivariate Analysis

The first hypothesis of this study is tested using a probit model. In the first hypothesis I test if the likelihood of a stock-financed acquisition is higher when the acquiring firm engaged in earnings

[24] WorldScope database and Compustat database (the Compustat variable codes are equivalent ones to the WorldScope's). I use the WorldScope database in this study.

management prior to the acquisition announcement. I test this hypothesis using various specifications of the following probit regression:

$$DStock_{it} = \delta_0 + \delta_1 EM_{it-1} + \delta_2 MTB_{it-1} + \delta_3 ROA_{it-1} + \delta_4 Leverage_{it-1} + \delta_5 DealSize_{it} + \delta_6 CrossBorder_{it} + \delta_7 CrossIndustry_{it} + \tau_{it} \quad (4)$$

Where, for firm *i* in year *t:*

DStock	=	Dummy variable, 1 if it is a 100% stock-financed acquisition, 0 otherwise[25];
EM	=	Earnings Management[26];
MTB	=	Market to Book[26] (Market Value / Book Value Equity);
ROA	=	Return on Assets[26] (Net Income / Total Assets);
Leverage	=	Leverage[26] (Total Debt / Total Assets);
DealSize	=	Relative Deal Size (Value of Transaction / Total Assetst$_{-1}$);
CrossBorder	=	Dummy variable, 1 if it is a cross-border acquisition, 0 otherwise;
CrossIndustry	=	Dummy variable, 1 if it is a cross-industry acquisition, 0 otherwise;
τ	=	Error term.

In order to perform a more robust analysis, I also test the reverse of Hypothesis 1, by estimating a similar probit model to the one presented above, where the dependent variable now identifies acquisitions that were fully paid in cash. Thus, I estimate the following model:

$$DCash_{it} = \delta_0 + \delta_1 EM_{it-1} + \delta_2 MTB_{it-1} + \delta_3 ROA_{it-1} + \delta_4 Leverage_{it-1} + \delta_5 DealSize_{it} + \delta_6 CrossBorder_{it} + \delta_7 CrossIndustry_{it} + \tau_{it} \quad (5)$$

Where, for firm *i* in year *t:*

DCash	=	Dummy variable, 1 if it is a 100% stock-financed acquisition, 0 otherwise[27];
EM	=	Earnings Management[28];
MTB	=	Market to Book[28] (Market Value / Book Value Equity);
ROA	=	Return on Assets[28] (Net Income / Total Assets);
Leverage	=	Leverage[28] (Total Debt / Total Assets);
DealSize	=	Relative Deal Size (Value of Transaction / Total Assets$_{t-1}$);
CrossBorder	=	Dummy variable, 1 if it is a cross-border acquisition, 0 otherwise;
CrossIndustry	=	Dummy variable, 1 if it is a cross-industry acquisition, 0 otherwise;
τ	=	Error term.

The variable codes[29] are indicated in Appendix A

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[25] I also test different percentages of stock used to finance the acquisitions, e.g. 1 = 100% stock; 1 = 75% stock; 1 = 50% stock, 0 = otherwise.

[26] Variable computed in previous year to the announcement year.

[27] I also test different percentages of amount of cash used to finance the acquisitions, e.g. 1 = 100% cash; 1 = 75% cash; 1 = 50% cash, 0 = otherwise.

[28] Variable computed in previous year to the announcement year.

[29] WorldScope database and Compustat database (the Compustat variable codes are equivalent ones to the WorldScope's). I use the WorldScope database in this study.

3.2.2. Calculation of the Long-Term Post-Acquisition Performance

Firm performances are already investigated in many existing studies, tough that is still controversial between the existing studies, as mentioned above. As Mitchell and Stafford (2000, p.288) state, "(...) measuring long-term abnormal performance is treacherous". So, in order to obtain a more robust result, I test two different performance metrics to analyze the long-term post-acquisition performance of acquirers involved in M&A:

- Long-term operating performance
- Long-term return performance

In both analysis, I also take into account the three years after the announcement. For operating performance, I also analyze the two years preceding the M&A (totaling a 5-year window).

3.2.2.1. Post-Acquisition Operating Performance

Operating income is considered an official financial income measure under the International Financial Reporting Standards (IFRS) (PriceWatersHouseCoopers, 2007). According to Barber & Lyon, 1996; Hotchkiss & Mooradian, 1998; Kruse et al., 2007, scaling the operating income by sales is the most appropriate measure of operating performance in M&A. So, the first method I use to analyze the post-operating performance is scaling the operating income by sales (Barber & Lyon, 1996; Heron & Lie, 2002; Hotchkiss & Mooradian, 1998; Loureiro & Taboada, 2015).

Although, to provide more robustness, some studies also opt to analyze the operating performance scaling the operating income by assets (Heron & Lie, 2002; Hotchkiss & Mooradian, 1998; Kruse et al., 2007; Rao-Nicholson et al., 2016). Thus, I also test the operating performance scaling the operating income by assets. The variables are defined in Appendix A.

I also follow the literature (e.g., Heron & Lie, 2002; Hotchkiss & Mooradian, 1998; Loureiro & Taboada, 2015) to control for different industries and factors that may affect the operating performance. I compute country-, year-, and the industry-adjusted[30] operating performance for each acquirer.

[30] I subtract the median (and also do the same process subtracting the mean, but the most appropriate way is subtracting the median (e.g., Heron & Lie, 2002; Hotchkiss & Mooradian, 1998; Loureiro & Taboada, 2015)) of operating performance of firms in the same country, same year and same industry (2-digit SIC code).

For a control sample, I use the aggregation of the mean (or median) of the operating income to sales ratio by group (the group consist in firms of the same industry (2-digit SIC code), country and year of acquisition). I use all the companies involved in M&A in EU during the period of 2000 and 2014.

Then I use parametric t-statistics (to test the means) and non-parametric Wilcoxon rank-sum z-statistics (to test the medians), to see if the difference between groups (stock-financed and cash-financed) is significant. So, the steps I use to test the operating performance are the following:

- Compute country-, year-, and industry-adjusted operating performance by taking the difference between the acquirer's operating income to sales ratio, minus the median/mean ratio of the same acquirer's country, year of acquisition and industry (2-digit SIC code);
- Compute changes in adjusted-operating performance from 2 years prior to 3 years after the deal;
- Test the univariate differences in means (t-statistics) and medians (Wilcoxon rank-sum z-statistics) between the groups of 100% stock-financed and 100% cash-financed.

3.2.2.2. Buy-and-Hold Abnormal Returns Post-Acquisition

To analyze the post-acquisition long-term return performance of the M&A, I follow previous studies (Agrawal et al., 1992; Louis, 2004; Mitchell & Stafford, 2000), and opt for the buy-and-hold abnormal returns (BHAR) model.

The buy-and-hold abnormal returns method is widely used in the long-run performance analysis. Also, this method is known as a precise measure of investor experience since it captures real investors' returns experience over a period of time (Barber & Lyon, 1997). It requires analysis over different periods of time in order to produce robust conclusions, since the abnormal performance may occur only in the first year or first 3 years and it might lead to take conclusions too soon (Mitchell & Stafford, 2000).

The buy-and-hold abnormal return is defined as the expected return on a buy-and-hold investment in a sample firm at specific time (I start 1 week after the M&A to 1, 2 and 3 years following it to test if the firm outperform the benchmark) minus the return on a buy-and-hold investment in the benchmark (equally weighted market index of country):

$$BHAR_i = \prod_{t=1}^{T}\left(1 + R_{i,t}\right) - \prod_{t=1}^{T}\left(1 + R_{benchmark,t}\right) \quad (6)$$

Where,

$R_{i,t}$ = Weekly return of firm *i* in week *t*;
$R_{benchmark,t}$ = Weekly return of the market index of country *i* in week *t*.

As stated in some studies (e.g., Kothari & Warner, 2007; Mitchell & Stafford, 2000), the main concern about this method is that it assumes that the corporate event's abnormal returns are independent. However, some events may not be completely random and, more importantly, even if they are there may be some overlapping across observations on the time period for which BHAR are calculated. This means that a positive cross-correlation on abnormal returns is possible. In an attempt to mitigate this problem, an alternative approach, I cluster the standard errors of the regression at the year and country-year levels.

Besides the main problem of BHAR mentioned above, Barber and Lyon (1997) and Kothari and Warner (1997) also mention other issues that can produce biased estimates using the BHAR approach. They point three possible causes, one is the new listing bias. This happens because the sample used in the studies usually hold a long post-event history of returns, while the firms that constitute the reference portfolio usually include all firms (including the new firms that began subsequent to the event month). The second problem is the rebalancing of benchmark portfolio, which is due the compound returns of the reference portfolio (for example, the equally weighted market index is usually calculated assuming generally monthly rebalancing). Relatively to the sample firms, it is compounded without rebalancing. The third problem is the skewness of multi-year, this is due the positive skewness observed in the long-run abnormal returns.

The most complete regression used is the one presented below (7).

$$BHAR = \alpha_0 + \alpha_1 DStock_i + \alpha_2 LogTotAssets_i + \alpha_3 Leverage_i + \alpha_4 ROA_i + \alpha_5 DealSize_i + \alpha_6 CrossBorder_i + \alpha_7 CrossIndustry_i + \alpha_8 Public_i + \varepsilon_i \quad (7)$$

Where, for firm i

BHAR	=	Buy-and-hold abnormal returns;
DStock	=	Dummy variable, 1 if it is a 100% stock-financed acquisition, 0 otherwise;
LogTotAssets	=	Logarithm of Total Assets;
Leverage	=	Leverage (Total Debt / Total Assets);
ROA	=	Return on Assets (Net Income / Total Assets);
DealSize	=	Relative Deal Size (Value of Transaction / Total Assetst-1);
CrossBorder	=	Dummy variable, 1 if it is a cross-border acquisition, 0 otherwise;
CrossIndustry	=	Dummy variable, 1 if it is a cross-industry acquisition, 0 otherwise;
Public	=	Dummy variable, represent a Public target firm if 1, and 0 otherwise;
ε	=	Error term.

The variable codes[31] are indicated in Appendix A

These variables are the most used through the BHAR analysis, with different specifications. All variables (except for the dummy variables) are winsorized at 1st and 99th percentile to mitigate the impact of outliers on the results.

3.3. Descriptive statistics

For a better overview of my sample, Table 2 presents descriptive statistics of my final sample of 5,982 M&A (EU countries, over January of 2000 to December of 2014). Panel A shows descriptive statistics for 100% stock-financed acquisitions. Panel B shows descriptive statistics for 100% cash-financed acquisitions. Panel C shows descriptive statistics for mix-financed acquisitions (neither 100% cash, nor 100% stock). I split my sample into method of payment deliberately because most of my dissertation aims to show the distinction between 100% stock-financed acquisitions and the 100% cash-financed ones.

The total assets of all Panels (A, B and C) suggest a positive skewness (the mean is much larger than the median). This means that in average, my sample has more observations under the mean (left tailed). The same logic applies to the ROA (t and t-1) variable in panel A (stock-financed acquisitions), the mean value being around -13% and the median -1.30% (positive 0.03% in t-1). This is probably one of the reasons most studies argue the median value is more appropriate to use, since it is not influenced by outliers. Thus, ROA (t and t-1) is relatively higher in the 100% cash-financed acquisition, with the mean at more than 3% prior the acquisition (median of around 4.98%) and the year of the acquisition (median of around 4.7%). In relation to deal size (which reflects the relative size of the deal according to the acquirer's size), it suggests that 100% stock-financed acquisitions tend to be larger (in relation to the acquirer) than 100% cash-financed ones (stock acquisitions with a deal size % of about 0.476 on average and 0.026 of median, cash acquisitions with a deal size % of about 0.072 on average and 0.004 of median). Also, 100% stock acquisitions tend to happen in a single country, while 100% cash is used to acquire foreign companies in over half the cases. In Appendix B is a correlation matrix with all the variables that I use in my work.

[31] WorldScope database and Compustat database (the Compustat variable codes are equivalent ones to the WorldScope's). I use the WorldScope database in this study.

Table 2 - Descriptive Statistics – Method of Payment: Stock, Cash and Mixed

Panel A – 100% Stock Payment				
Variables	**Obs.**	**Mean**	**Median**	**Std. Dev.**
# of M&A	724			
Total Assets (US$)	683	3,468,169	137,572	11,800,000
Deal Size (%)	682	0.476	0.026	3.852
MTB (%)	377	0.283	0.155	0.407
MTB_{t-1} (%)	308	0.272	0.175	0.388
Leverage Ratio (%)	682	17.718	12.710	18.530
Leverage $Ratio_{t-1}$ (%)	682	18.018	12.788	19.563
ROA (%)	682	-13.065	-1.298	34.476
ROA_{t-1} (%)	680	-13.858	0.032	37.472
% Owned After Transaction	709	97.05	100	9.97
	Obs.	**%**		
Cross-Border	280	38.67%		
Cross-Industry (2-Digit)	291	40.19%		
Cross-Industry (3-Digit)	374	51.66%		
Private	377	52.07%		
Public	340	46.96%		
Joint-venture	0	0.00%		
Subsidiary	2	0.28%		
Government	5	0.69%		
Panel B – 100% Cash Payment				
Variables	**Obs.**	**Mean**	**Median**	**Std. Dev.**
# of M&A	3,023			
Total Assets (US$)	2,848	8,029,820	1,006,236	17,700,000
Deal Size (%)	2,877	0.072	0.004	1.940
MTB (%)	1,916	0.269	0.199	0.290
MTB_{t-1} (%)	1,710	0.259	0.195	0.284
Leverage Ratio (%)	2,843	22.730	21.117	16.432
Leverage $Ratio_{t-1}$ (%)	2,876	21.272	19.640	16.621
ROA (%)	2,848	3.292	4.737	13.149
ROA_{t-1} (%)	2,873	3.461	4.977	14.445
% Owned After Transaction	2,979	95.33	100	12.26
	Obs.	**%**		
Cross-Border	1,634	54.05%		
Cross-Industry (2-Digit)	1,275	42.18%		
Cross-Industry (3-Digit)	1,659	54.88%		
Private	1,620	53.59%		
Public	1,380	45.65%		
Joint-venture	1	0.03%		
Subsidiary	9	0.30%		
Government	13	0.43%		
Panel C – Mixed Payment				
Variables	**Obs.**	**Mean**	**Median**	**Std. Dev.**
# of M&A	2,235			
Total Assets (US$)	2,163	2,667,147	191,121	10,100,000
Deal Size (%)	2,141	0.124	0.015	1.354
MTB (%)	1,210	0.258	0.183	0.327
MTB_{t-1} (%)	1,035	0.257	0.181	0.343
Leverage Ratio (%)	2,160	18.150	15.252	16.343
Leverage $Ratio_{t-1}$ (%)	2,138	17.068	12.929	17.054
ROA (%)	2,161	-2.593	3.485	24.777
ROA_{t-1} (%)	2,137	-1.310	4.246	24.415

% Owned After Transaction	2,211	98.28	100	7.77
	Obs.	**% Total**		
Cross-Border	939	42.01%		
Cross-Industry (2-Digit)	903	40.40%		
Cross-Industry (3-Digit)	1,107	49.53%		
Private	1,789	80.04%		
Public	438	19.60%		
Joint-venture	0	0.00%		
Subsidiary	4	0.18%		
Government	4	0.18%		

Descriptive statistics of my sample of 5,982 M&A based on method of payment: stock (panel A), cash (panel B) and mixed (panel C). The % Owned After Transaction is the percentage that the acquirer owns after the deal is completed. All variables in the upper part of each panel are percentages, except # of M&A, which is the total number of observations for that method of payment, and Total Assets, which is in US$ (2014 adjusted price). Deal Size is the Relative Deal Size (Value of Transaction / Total Assetst-1). MTB is the Market to Book (Market Value / Book Value Equity). Leverage is the (Total Debt / Total Assets). ROA is Return on Assets (Net Income / Total Assets). MTBt-1, Leveraget-1 and ROAt-1 are lagged variables (same way of computing as the non-lagged). The lower part of each panel shows only dummy variables. Cross-Border is an M&A that is made between firms of two different countries. Cross-Industry is an M&A that is made between firms of two different industries (2-Digit identifies the major group, 3-Digit identifies the industry group). Private, Public, Joint-venture, Subsidiary and Government are dummies variables that define the type of target. The quantitative variables are winsorized at 1st and 99th percentile. All variables are defined in Appendix A

4. Results

4.1. Earnings Management

As mentioned before, earnings management are calculated through the Modified-Jones (1991) model. This model, quantify the amount of discretionary accruals in each firm, which is recognized as the earnings management. The results are solid with the previously developed studies and can be seen in the next sections.

4.1.1. Discretionary Total Accruals – Univariate Analysis

In this section I test the differences in the means (t-test) of discretionary accruals between the groups of acquirers that made stock-financed or cash-financed acquisitions. Thus, in this section, I test one alternative to test the first hypothesis[32] by estimating a univariate analysis.

Table 3 shows the univariate results for the difference of mean in earnings management prior to the acquisition (1 year) between the payment method groups. I do the t-test (test the means) for my sample of 5,982 M&A in EU, over 2000 and 2014. Across all three Panels (testing different ratios used to pay for the acquisition). The results do not show statistically significant differences between the payment with stock and the payment with cash.

Although, the univariate analysis is not the most appropriate to test the hypotheses, as it does not take into account the cross-sectional variation of the sample, in particular the different characteristics of firms involved in stock and cash M&As. Therefore, in the next section, I present the results of the multivariate analysis, which is more appropriate to test the main hypothesis of this study.

Note the amount of observations across panels tends to increase, and it is expected to have all observations of my sample included in the panel C[33]. Although, it does not happen, not only due to the lack of firm-specific variables necessary to estimate the discretionary accruals, but also due to the absence of deal-specific variables. In this case, I refer specifically to the amount used by each method of payment to finance the acquisition.

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[32] *The likelihood of a stock-financed acquisition is higher when the acquiring firm engaged in earnings management prior to the acquisition announcement.*

[33] To occur an M&A, the total payment (100%) must have at least 50% of stock or 50% of cash (e.g., if one firm pay an acquisition with 10% stock, I assume that the remaining 90% is paid with cash), but that not always happen, the explanation is in Appendix A.

Table 3 - Total Discretionary Accruals - Univariate analysis

Panel A – Univariate analysis: 100% stock and 100% cash					
	Mean 100% stock (A)	**Mean 100% cash (B)**	**Difference (A-B)**	**Obs. 100% stock**	**Obs. 100% cash**
EM_{t-1}	-0.01758	-0.0016	-0.01598	542	2657
			(0.1659)		
Panel B – Univariate analysis: 75% stock and 75% cash					
	Mean 75% stock (A)	**Mean 75 % cash (B)**	**Difference (A-B)**	**Obs. 75% stock**	**Obs. 75% cash**
EM_{t-1}	-0.00977	-0.00166	-0.00811	765	3223
			(0.4228)	765	3223
Panel C – Univariate analysis: 50% stock and 50% cash					
	Mean 50% stock (A)	**Mean 50 % cash (B)**	**Difference (A-B)**	**Obs. 50% stock**	**Obs. 50% cash**
EM_{t-1}	-0.01306	-0.00157	-0.01149	1114	3786
			(0.1894)		

Mean (t-test) analysis of cross-sectional Modified-Jones (1991) model, based on the estimated discretionary accruals (EM_{t-1}) of 5,982 M&A between 2000 and 2014 in the EU. The analysis is based on the year preceding the acquisitions. Panel A represents the analysis from 100% stock-financed to 100% cash-financed acquisitions. Panel B represents the same analysis, from a maximum of 75% stock-financed to a maximum of 75% cash-financed. Panel C represents the same analysis, from 50% stock-financed to 50% cash-financed. The number of observations increase from Panel A to B and C, because the parameters get less strict. (A) and (B) represent the mean of stock and cash acquisitions respectively. The variable is winsorized at 1st and 99th percentile. All variables are defined in Appendix A. Robust t-statistics in parenthesis (it shows if the mean is statistically significant different between the groups). ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

4.1.2. Probit Multivariate Analysis

As a robustness check of my results in a multivariate framework, I regress the variable stock (and cash) with different specifications against the earnings management (discretionary accruals) in the year preceding the acquisition and other control variables. Since the dependent variable is a dummy (can only be the value of 0 and 1), I estimate a probit model. Thus, in this section, I test the first hypothesis[34] by estimating both multivariate probit models explained in section 3.2.1.2 (model (4) and (5)).

So, if acquirer firms use discretionary accruals aggressively to inflate earnings prior (1 year) to the M&A, they have an incentive to finance the acquisition with stocks (the market value of their stock

[34] *The likelihood of a stock-financed acquisition is higher when the acquiring firm engaged in earnings management prior to the acquisition announcement.*

prior the acquisition will be artificially overvalued, which results in a cheaper acquisition). Thus, I expect the discretionary accruals (EM_{t-1}) coefficient to be positive and statistically significant (as in most other studies).

Table 4 reports the results of the multivariate analysis. Consistent with Erickson and Wang (1999), Louis (2004), and Rahman and Bakar (2003), I find a statistically significant connection between the practice of earnings management and the method of payment. Table 4 is divided into 2 panels (Panel A and Panel B).

I run different specifications of probit model (4) and (5) to check the robustness of the baseline models (they are the same, changing only the dependent variable from 100% stock-financed acquisition to 100% cash-financed acquisition, respectively). In the models (2), (4) and (6) of both panels I use fixed effects (year, country and industry) to control for any unobservable or omitted factors that may influence the acquisitions.

Thus, Panel A shows the results of the probit model (4) estimated (100%, 75% and 50% are reported)[35]. Model (1) suggests that increasing one percentage point in earnings management prior to the acquisition (1 year) leads to an increase, in average, of about 7 percentage points in the probability it being a 100% stock-financed acquisition, ceteris paribus, statistically significant at 1% level. With fixed effects (models (2), (4) and (6)), the conclusions remain the same, with statistical significance at 1% level. So, the higher the earnings management in a firm prior the acquisition, the higher the likelihood of a subsequent stock-financed acquisition. It confirms my first hypothesis and is consistent with previous studies mentioned before.

I also test the presence of earnings management in cash-financed acquisitions. Following the same reasoning, I expect the discretionary accruals (EM_{t-1}) coefficient to be negative and also statistically significant.

Panel B shows the results of the probit model (5) estimated (100%, 75% and 50% are reported)[36][35]. And indeed, the results sustain my first hypothesis. The coefficient of EM_{t-1} suggest that the

[35] Note that, if the acquisition is paid with an amount lower than 100% stock or 100% cash, it implies a mix on the method of payment (e.g., 50% of stock-financed do not means exactly that the another 50% is financed with cash, it only means that in the minimum 50% of stock is used to finance the acquisition).

[36] Note that, if the acquisition is paid with an amount lower than 100% stock or 100% cash, it implies a mix on the method of payment (e.g., 50% of stock-financed do not means exactly that the another 50% is financed with cash, it only means that in the minimum 50% of stock is used to finance the acquisition).

manipulation of earnings is lower (or nonexistent) and statistically significant at 1% level, considering the baseline model. The presence of earnings management is evident across different percentages of cash used to finance the acquisition (100%, 75% and 50% are reported), even when I use fixed effects (despite the decrease on the level of significance to 5%, in model (4) and (6), and decrease to 10% the significance level in the model (2)).

Model (1) of Panel B, suggests that increasing one percentage point in earnings management in the year prior the acquisition, leads to a drop, in average, of about 13 percentage points in the probability of a 100% cash acquisition occurring, ceteris paribus. The lower probability is obtained estimating the model (3). It suggests a drop, in average, of almost 16%, ceteris paribus and statistically significant at 1% level.

My conclusions are consistent with Botsari and Meeks (2008), Erickson and Wang (1999) and Louis (2004). Earnings management tend to be significant and positive in stock-financed acquisitions. In the context of SEO, studies also confirm the evidence of earnings management (see section 2.1.2) around stocks. IPOs also experience earnings management (see section 2.1.2).

Table 4 - Results from probit regressions of M&A

Panel A – Probit – Stock-financed M&A						
	100% Stock	**100% Stock (F.E.)**	**75% Stock**	**75% Stock (F.E.)**	**50% Stock**	**50% Stock (F.E.)**
	(1)	(2)	(3)	(4)	(5)	(6)
EM_{t-1}	0.0737***	0.0715***	0.0956***	0.0719***	0.1186***	0.0867***
	(3.25)	(3.17)	(3.44)	(2.90)	(3.36)	(2.64)
Deal Size	4.1404*	3.9046*	32.9752***	15.9946**	42.2362***	20.6668
	(1.65)	(1.84)	(2.98)	(2.04)	(2.71)	(1.64)
MTB_{t-1}	-0.2147	0.7141	0.3080	1.4658	0.4286	1.0931
	(-0.11)	(0.39)	(0.13)	(0.73)	(0.15)	(0.41)
Cross-Industry	-0.0185*	-0.0133	-0.0275**	-0.0187*	-0.0358**	-0.0285*
	(-1.80)	(-1.46)	(-2.22)	(-1.69)	(-2.40)	(-1.96)
Cross-Border	-0.0381***	-0.0439***	-0.0541***	-0.0340***	-0.0743***	-0.0425***
	(-3.66)	(-4.33)	(-4.26)	(-2.81)	(-4.88)	(-2.69)
Public	0.0604***	0.0394***	0.0557***	0.0733***	0.0302*	0.0707***
	(5.44)	(3.75)	(4.26)	(5.39)	(1.95)	(4.16)
ROA_{t-1}	-0.2429***	-0.2252***	-0.2762***	-0.1544***	-0.3918***	-0.2396***
	(-8.07)	(-8.44)	(-6.73)	(-4.69)	(-6.85)	(-4.80)
$Leverage_{t-1}$	-0.0076	-0.0237	-0.0516	0.0445	-0.1497***	0.0209
	(-0.22)	(-0.73)	(-1.17)	(1.15)	(-2.79)	(0.41)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Observations	2,909	2,903	2,909	2,908	2,909	2,908
R-squared	0.102	0.165	0.107	0.195	0.0893	0.153
Actual Prob.	0.0949	0.0951	0.128	0.128	0.189	0.189
Panel B - Probit – Cash-financed M&A						

	100% Cash	100% Cash (F.E.)	75% Cash	75% Cash (F.E.)	50% Cash	50% Cash (F.E.)
	(1)	(2)	(3)	(4)	(5)	(6)
EM_{t-1}	-0.1295***	-0.0846*	-0.1595***	-0.1076**	-0.1175***	-0.0802**
	(-2.71)	(-1.73)	(-3.50)	(-2.40)	(-3.04)	(-2.25)
Deal Size	-84.2173*	-47.4562	-78.5318**	-45.9186	-56.9272**	-31.5816*
	(-1.94)	(-1.33)	(-2.25)	(-1.53)	(-2.58)	(-1.77)
MTB_{t-1}	-1.9609	-2.0279	-2.6521	-2.8091	0.6884	-0.0347
	(-0.57)	(-0.58)	(-0.80)	(-0.86)	(0.22)	(-0.01)
Cross-Industry	0.0374*	0.0291	0.0323*	0.0200	0.0456***	0.0398**
	(1.92)	(1.44)	(1.75)	(1.07)	(2.87)	(2.55)
Cross-Border	0.1102***	0.0588***	0.1056***	0.0543***	0.0970***	0.0551***
	(5.60)	(2.74)	(5.69)	(2.70)	(6.03)	(3.30)
Public	0.1722***	0.0833***	0.0918***	0.0187	0.0052	-0.0500***
	(8.58)	(3.58)	(4.83)	(0.85)	(0.32)	(-2.75)
ROA_{t-1}	0.5034***	0.3015***	0.5060***	0.3263***	0.4317***	0.2667***
	(5.87)	(3.46)	(6.34)	(4.37)	(6.72)	(4.76)
$Leverage_{t-1}$	0.2994***	0.0355	0.2581***	0.0012	0.1725***	-0.0362
	(4.31)	(0.52)	(3.89)	(0.02)	(2.96)	(-0.67)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Observations	2,909	2,908	2,909	2,908	2,909	2,908
R-squared	0.0815	0.129	0.0839	0.139	0.0988	0.164
Actual Prob.	0.567	0.567	0.678	0.678	0.787	0.787

Table 4 reports regression estimates of probit multivariate model (model (4) in Panel A and (5) in Panel B) using different specifications. The dependent variable is a dummy variable in both panels. In Panel A the dependent variable is a stock dummy, 1 if it is a 100% stock-financed acquisition (75% in model (3) and (4) and 50% in model (5) and (6)), or 0 otherwise. In Panel B the dependent variable is a cash dummy, 1 if it is a 100% cash-financed acquisition (75% in model (3) and (4) and 50% in model (5) and (6)), or 0 otherwise. EM_{t-1} is the earnings management (estimated using the Modified-Jones (1991) model in the year preceding the announcement date. The Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). MTB_{t-1} is the Market to Book (Market Value / Book Value Equity) in the year preceding the acquisition. Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, or 0 otherwise. The Public is a dummy variable, 1 if it is a public target, or 0 otherwise. ROA_{t-1} is Return on Assets (Net Income / Total Assets) in the year preceding the acquisition. $Leverage_{t-1}$ is the (Total Debt / Total Assets) in the year preceding the acquisition. Year, country and industry fixed effects are included in the regressions (2), (4) and (6) of both panels. The quantitative variables are winsorized at 1st and 99th percentile. Robust z-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

4.2. Long-Term Post-Acquisition Performance

In this section I test two different performance metrics to analyze the long-term post-acquisition performance (test the second hypothesis) of acquirers involved in M&A:

- Long-term operating performance
- Long-term return performance

In both analysis, I take into account the three years after the announcement. For operating performance, I also analyze the two years preceding the M&A (totaling a 5-year window). In relation to long-term return performance I start from the year of the deal and analyze 1, 2 and 3 years following the M&A.

4.2.1. Post-Acquisition Operating Performance

In this section, I test the post-operating performance through the operating income scaled by sales and assets from year t_{-2}[37] to year t_{+1}, t_{+2} and t_{+3}. Ghosh (2001), Heron and Lie (2002) and Hotchkiss and Mooradian (1998) report an increased post-acquisition operating performance in the stock-financed acquisition when compared to the cash-financed. Thus, in this section, I test one alternative[38] to test the second hypothesis[39] by estimating a univariate analysis explained in section 3.2.2.1 (comparing the operating performance of the 100% stock-financed acquisitions to those who made a 100% cash-financed acquisition[40]).

What I expect from this analysis is to find evidence of weaker post-operating performance on stock-financed acquisitions compared to cash-financed ones.

Table 5 shows the univariate results for the differences in adjusted operating performance (operating income scaled by sales) from 1 year prior to 3 years after the acquisition. I test the univariate differences in means (t-statistics) and medians (Wilcoxon rank-sum z-statistics) between the groups of 100% stock-financed and 100% cash-financed for my sample of 5,982 M&A in EU, over 2000 and 2014. The difference between both panels (A and B) is the type of methodology that I use to create the control sample (in Panel A I use the Median, in Panel B I use the Mean). In fact, the coefficients in both Panels leads to similar conclusions.

I find results similar to previous studies (e.g., Ghosh, 2001; Heron & Lie, 2002; Hotchkiss & Mooradian, 1998) when it comes to the operating performance in M&A. In the Panel A and Panel B, the difference between (C) and (D) shows that stock-financed acquisitions reflect lower levels (negative) of operating performance in relation to cash-financed ones from the year preceding to the year following the acquisition, with statistical significance of 10% from year t_{-1} to t_{+1}, -0.017 and -0.022, respectively).

The results are also evident and statistically significant at 10% level in the Panel A and B. The difference between model (A) and (B) (-2.24) shows that stock-financed acquisitions reflect lower levels (-1.98) of operating performance in relation to cash-financed acquisitions (0.26) from the

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[37] The coefficients of t_{-2} are similar to the coefficients of t_{-1}, so, I do not report any table of it.

[38] The second hypothesis is more targeted to the analysis of stock-financed acquisitions engaged or not in earnings management. In this section I test the stock-acquisitions against cash-acquisitions, I do not specify if the firms engaged or not in earnings management.

[39] *The long-term post-acquisition performance of stock-financed acquisitions should be weaker in cases when the acquiring company engaged in earnings management prior to the acquisition.*

[40] I also compare 100% stock-financed acquisitions against all acquisitions which are not included in 100% stock-financed acquisition (it also includes all the cash-financed acquisitions)

year preceding to 3 years following the acquisition. So, the difference between the control sample created by the mean or median seems to lead to similar conclusions, however, a higher difference using the mean in relation to the median, -2.24 to -1.98).

Thus, the univariate analysis of the differences in adjusted-operating performance from 1 year prior to 1 year and 3 years after the acquisition between 100% stock-financed acquisition and 100% cash-financed acquisitions are coherent with the second hypothesis. However, I only show that stock-financed acquisition performs worse than cash-financed acquisitions.

Table 5 - Op. income scaled by sales: Δ from t_{-1} to t_{+1}, t_{+2} and t_{+3} (100% stock & 100% cash)

Panel A – Operating income scaled by sales - Univariate analysis: Country-, Year-, Industry-adjusted (Median)								
Years	**Mean 100% stock (A)**	**Mean 100% cash (B)**	**Difference (A-B)**	**Median 100% stock (C)**	**Median 100% cash (D)**	**Difference (C-D)**	**Obs. 100% stock**	**Obs. 100% cash**
Δ t_{-1} to t_{+1}	-0.0513793	-0.1487939	0.097415 (0.9372)	-0.014279	0.002618	-0.016897* (0.0878)	386	1687
Δ t_{-1} to t_{+2}	0.0585889	0.1603024	-0.101714 (0.8933)	0.013193	-0.002916	0.016109 (0.1007)	369	1671
Δ t_{-1} to t_{+3}	-1.98019	0.2595254	-2.239715* (0.0613)	-0.012234	0.001517	-0.013751 (0.2185)	365	1654
Panel B – Operating income scaled by sales - Univariate analysis: Country-, Year-, Industry-adjusted (Mean)								
Years	**Mean 100% stock (A)**	**Mean 100% cash (B)**	**Difference (A-B)**	**Median 100% stock (C)**	**Median 100% cash (D)**	**Difference (C-D)**	**Obs. 100% stock**	**Obs. 100% cash**
Δ t_{-1} to t_{+1}	-0.074362	-0.156822	0.082461 (0.9468)	-0.013477	0.008581	-0.022058* (0.0799)	386	1687
Δ t_{-1} to t_{+2}	0.041277	0.150098	-0.108821 (0.8857)	0.007900	-0.005081	0.012980 (0.2083)	369	1671
Δ t_{-1} to t_{+3}	-1.769019	0.214439	-1.983458* (0.0972)	-0.019801	-0.001774	-0.018027 (0.1506)	365	1654

Median and mean changes in operating income scaled by sales. Country-, Year-, Industry-adjusted by median (Panel A) and by mean (Panel B). The process that I apply is described in 3.2.2.1. The year before 0 belongs to acquirer only, while the subsequent years represent the M&A firms. Years is the variation between the year preceding (two years preceding leads to similar conclusions) the acquisition and the years following the acquisition (t_{+1}, t_{+2} and t_{+3}). (A) and (B) represent the mean of 100% stock and 100% cash acquisitions respectively. (C) and (D) represent the median of 100% stock and 100% cash acquisitions respectively. The number of observations (both stock and cash) decrease over time, since some firms fail to survive for the whole period-analysis following the acquisition. The variables are winsorized at 1st and 99th percentile. The operating income scaled by sales (EBIT / Sales), both are defined in Appendix A. Significance is based on t-statistics (in parenthesis) and Wilcoxon rank-sum z-statistics (in parenthesis), which shows that the mean/median is significant different between the groups, ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

I also show in Appendix C the same univariate analysis as Table 5 but instead of contrasting 100% stock-financed acquisition with 100% cash stock-financed acquisition, I test the 100% stock-financed acquisitions against the rest of my sample. And, actually, the results still sustain the

conclusions obtained from Table 5 (and with the same statistical significance at 10% level)[41]. Since I include all cases financed with less than 100% stock, it is interesting that it leads to similar results (e.g., an acquisition financed with 99% stock is included in the group of "less than 100% stock-financed acquisition".

According to literature (e.g., Hotchkiss & Mooradian, 1998; Kruse et al., 2007; Loureiro & Taboada, 2015), operating income scaled by sales is more appropriate[42] to use in M&A market. As the coefficients of univariate analysis of operating income scaled by assets were similar (but not statistically significant) to coefficients of scaled by sales, I do not include any table for it.

In the first hypothesis I show that stock-financed acquisitions are more likely to be engaged in earnings management prior (1 year) to the acquisition. Now I find statistical evidence of weaker performance in 100% stock-financed acquisitions compared with 100% cash-financed acquisitions, and also compared to non-100% stock-financed acquisitions. Therefore, non-stock-financed acquisitions performance beats the stock-financed acquisitions.

4.2.2. Buy-and-Hold Abnormal Returns Post-Acquisition

In this section, I compare firms' long-term returns to its country's (benchmark) using buy-and-hold abnormal returns (BHAR) from year t_0 (one week after the announcement date) to year t_{+1}, t_{+2} and t_{+3}. I test my second hypothesis[43] based on regressions of BHAR for stock-financed and cash-financed acquisitions, as described in the methodology section (3.2.2.2).

I expect stock-financed acquisitions that were engaged in earnings management prior the acquisition to experience a worse performance. They are more likely to be the ones who perform inferiorly because, as mentioned in the literature review (e.g., D. Cohen & Zarowin, 2010), the discretionary accruals reverse over time[44]. So it is unlikely that managers have the capabilities to keep sustaining[45] the inflated earnings indefinitely.

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[41] In Panel B, both the difference between (A) and (B) shows at 10% of confidence level that stock-financed acquisitions reflect lower levels (more negative) of operating performance in relation to cash-financed (which is also negative in (B), but positive in (D)) from the year preceding to 3 years following the acquisition.

[42] It is not affected by differences in accounting treatment and payment method.

[43] *The long-term post-acquisition performance of stock-financed acquisitions should be weaker in cases when the acquiring company engaged in earnings management prior to the acquisition.*

[44] Bradshaw, Richardson and Sloan (2001) state that the analysts and auditors who are intermediaries, do not alert investors about the problems associated with the aggressive use of earnings management.

[45] Dechow and Skinner (2000), find evidence that investors are deluded in relation to the earnings management practices.

Table 6 shows the BHAR regressions. It has 2 panels, Panel A presents the 100% stock-financed acquisitions, and Panel B the 100% cash-financed ones. With a multivariate model, Panel A shows that 100% stock-financed acquisitions (DStock, dummy variable) have on average, a lower BHAR of about 16 percentage points, statistically significant at 1% level from year t to t_{+1}. I use fixed effects (year, country and industry, in models (2), (4) and (6)) and clusters (year (model (3), (4), (5) and (6)) and country-year (model (5) and (6)), and the conclusions are the same. On the opposite side, 100% cash-financed acquisitions (Panel B) experience, on average, an increase in BHAR of about 10 percentage points (and 9 percentage point when I use fixed effects and clusters), statistically significant at 1% level from year t to t_{+1}.

Table 6 - BHAR – 100% stock-financed & 100% cash-financed from t to t_{+1}

Panel A – BHAR – 100% stock-financed: t to t_{+1}

	No cluster	**No cluster (F.E.)**	**Cluster Year**	**Cluster Year (F.E.)**	**Cluster Country-Year**	**Cluster Country-Year (F.E.)**
	(1)	(2)	(3)	(4)	(5)	(6)
DStock	-0.1593***	-0.1561***	-0.1593***	-0.1561***	-0.1593***	-0.1561***
	(-5.04)	(-4.90)	(-3.97)	(-4.25)	(-4.85)	(-4.47)
LogTA	0.0090*	0.0086*	0.0090	0.0086	0.0090	0.0086
	(1.91)	(1.73)	(1.29)	(1.29)	(1.33)	(1.35)
Deal Size	-0.4152	-0.3343	-0.4152	-0.3343	-0.4152	-0.3343
	(-1.24)	(-0.99)	(-1.36)	(-1.11)	(-1.48)	(-1.18)
Cross-Industry	0.0060	0.0163	0.0060	0.0163	0.0060	0.0163
	(0.35)	(0.94)	(0.46)	(0.98)	(0.43)	(1.03)
Cross-Border	0.0286	0.0318*	0.0286	0.0318	0.0286	0.0318
	(1.60)	(1.71)	(1.10)	(1.12)	(1.08)	(1.14)
Public	0.0659***	0.0602***	0.0659**	0.0602**	0.0659***	0.0602***
	(3.59)	(3.28)	(2.35)	(2.56)	(3.02)	(3.39)
ROA	0.0364**	0.0327**	0.0364***	0.0327***	0.0364***	0.0327***
	(2.50)	(2.33)	(3.84)	(3.17)	(3.31)	(2.90)
Leverage	-0.0915*	-0.0570	-0.0915	-0.0570	-0.0915	-0.0570
	(-1.77)	(-1.11)	(-1.43)	(-0.93)	(-1.60)	(-1.09)
Constant	-0.1208*	-0.2849*	-0.1208	-0.2849***	-0.1208	-0.2849***
	(-1.74)	(-1.82)	(-1.02)	(-3.66)	(-1.09)	(-3.53)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes
Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.021	0.064	0.021	0.064	0.021	0.064

Panel B – BHAR – 100% cash-financed: t to t_{+1}

	No cluster	**No cluster (F.E.)**	**Cluster Year**	**Cluster Year (F.E.)**	**Cluster Country-Year**	**Cluster Country-Year (F.E.)**
	(1)	(2)	(3)	(4)	(5)	(6)
DCash	0.1012***	0.0916***	0.1012***	0.0916***	0.1012***	0.0916***
	(6.20)	(5.72)	(4.94)	(5.07)	(5.39)	(4.90)

LogTA	0.0070	0.0080	0.0070	0.0080	0.0070	0.0080
	(1.45)	(1.60)	(1.04)	(1.25)	(1.09)	(1.33)
Deal Size	-0.5164	-0.4312	-0.5164	-0.4312	-0.5164*	-0.4312
	(-1.44)	(-1.21)	(-1.62)	(-1.38)	(-1.74)	(-1.48)
Cross-Industry	0.0069	0.0178	0.0069	0.0178	0.0069	0.0178
	(0.41)	(1.03)	(0.52)	(1.07)	(0.48)	(1.10)
Cross-Border	0.0335*	0.0334*	0.0335	0.0334	0.0335	0.0334
	(1.87)	(1.82)	(1.26)	(1.17)	(1.24)	(1.18)
Public	0.0356*	0.0355*	0.0356	0.0355	0.0356	0.0355**
	(1.93)	(1.92)	(1.24)	(1.47)	(1.53)	(1.99)
ROA	0.0370**	0.0334**	0.0370***	0.0334***	0.0370***	0.0334***
	(2.40)	(2.25)	(3.59)	(3.05)	(3.17)	(2.84)
Leverage	-0.0930*	-0.0585	-0.0930	-0.0585	-0.0930	-0.0585
	(-1.81)	(-1.14)	(-1.38)	(-0.91)	(-1.58)	(-1.07)
Constant	-0.1523**	-0.3744**	-0.1523	-0.3744***	-0.1523	-0.3744***
	(-2.16)	(-2.33)	(-1.26)	(-4.42)	(-1.37)	(-4.31)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes
Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.020	0.062	0.020	0.062	0.020	0.062

Table 6 reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2. from t to t_{+1}. Panel A and Panel B show the explanatory variable of method of payment, 100% stock (Dummy Stock) and 100% cash (Dummy Cash), respectively. Dummy Stock (DStock), 1 if it is a 100% stock-financed acquisition, or 0 otherwise. Dummy Cash (DCash), 1 if it is a 100% stock-financed acquisition, or 0 otherwise. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, or 0 otherwise. The Public is a dummy variable, 1 if it is a public target, or 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity I use fixed effects (year, country and industry) to control for any unobservable or omitted factors that may influence the acquisitions (in model (2) (4) and (6). I use cluster by year and by country-year. In model (3), (4), (5) and (6) I include the cluster by year, in model (4), (5) and (6) I also include the cluster by Country. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Also, Appendix D shows a replica of BHAR regressions presented in Table 6, with the period analysis from t to t_{+2} and t_{+3} for 100% stock-financed acquisitions (Panel A and Panel B) and for 100% cash-financed acquisitions (Panel C and Panel D). The results sustain the conclusions obtained from Table 6' analysis (year t to t_{+1}). However, the conclusions tend to be more problematic (to the companies' situations) through the years (t to t_{+2} and t to t_{+3}). Panel A (t to t_{+2}) of Appendix D shows that 100% stock-financed (DStock, dummy variable) have in average, a lower BHAR of about 19 percentage points, statistically significant at 1% level, from year t to t_{+2}. From t to t_{+3} and statistically significant at 1% level, in average, a lower BHAR of about 32 percentage points is expected. I use fixed effects and clusters, and the conclusions remain the same. So, the BHAR has higher probabilities to suffer a decrease through the years (t to t_{+1}, t_{+2} and t_{+3}) when an acquisition is financed with 100% stock.

On the opposite side, a 100% cash-financed acquisitions (Panel C and Panel D of Appendix D) experience, on average, an increase in BHAR of about 18 percentage points (and 17 percentage point when I use fixed effects and clusters), statistically significant at 1% level, from year t to t_{+2}. And from t to t_{+3}, there's an average increase in BHAR of about 25 percentage points (and 23 percentage point when I use fixed effects and clusters). So, the BHAR has higher probabilities to experience increase across the years (t to t_{+1}, t_{+2} and t_{+3}) when an acquisition is financed with 100% cash.

Thus, I sustain the same conclusions obtained in the previous section. I conclude with a significance level of 10% (univariate analysis), that 100% stock-financed acquisitions experience a worse long-term performance (operating performance in the univariate analysis) than 100% cash-financed acquisitions, from t_{-1} to t_{+1} and t_{+3}. And this conclusions are consistent with Ghosh (2001) and Rao-Nicholson et al. (2016), which state that cash-financed acquisitions lead to better performance than stock-financed ones on the long-run.

I do a robustness check because most of my sample's acquirers are from the UK, which could lead to biased results. So I estimated the same regressions (BHAR) from year t to $t_{+1,}$ but contrasting UK based acquirers with non-UK ones. Thus, Appendix E includes Panel A and Panel B, which display 100% stock-financed acquisitions (Panel A shows only UK acquirers, and Panel B only non-UK ones). Both cases experience a statistically significant decrease of 1% from year t to t_{+1}. UK acquirers show a decrease on average of about 10 percentage points (and about 12 percentage point when I use fixed effects and clusters), while non-UK acquirers show a decrease of 17 percentage points on average.

Appendix E includes Panel C and Panel D, which display 100% cash-financed acquisitions (Panel C shows only UK acquirers, and Panel D only non-UK ones). Both cases experience a statistically significant increase of 1% from year t to t_{+1}. UK acquirers show an increase on average of about 10 percentage points (and about 9 percentage point when I use fixed effects and clusters), while non-UK acquirers show an increase on average of 8 percentage points. The period of t to t_{+2}, and t_{+3} of 100% stock and 100% cash acquisition is tested, but as they result in the same pattern reported before, the tables were omitted.

Thus, I conclude that, in fact, UK acquirers do better with stock-financed acquisitions, due the lower impact that the dummy stock has comparing to the non-UK acquirers (-10 percentage points and -17 percentage points, respectively). And, in relation to the cash-financed acquisitions, the

impact that the dummy cash has comparing to the non-UK acquirers is higher (10 percentage points and 8 percentage points, respectively).

Alternatively, I estimate regressions of BHAR for earnings management. With a dummy variable, where firms engaged in earnings management in t_{-1} (in relation to the acquisition) is 1, or 0 if they didn't, I test the impact that earnings management prior to the acquisition has in the BHAR across the year of the acquisition and the 3 following years (t to t_{+1}, t_{+2} and t_{+3}).

Table 7 reports that earnings management in the year prior to the acquisition has a negative impact in the BHAR in the acquisitions in the following 3 years, statistically significant at 5% and 10% levels. From year t to t_{+1}, t_{+2} and t_{+3}, the firms engaged in EM_{t-1}, have on average, a lower BHAR of about 3,9 percentage points (statistically significant at 5% level), 5,2 percentage points (statistically significant at 10% level) and 6.1% percentage points (statistically significant at 5% level). Agrawal et al. (1992) report a decrease of 10% BHAR in the following 5 years in firms engaged in EM.

Table 7 - BHAR – Earnings management impact from t to t_{+1} t_{+2} t_{+3}

BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – Earnings management$_{t-1}$			
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)
Dummy EM_{t-1}	-0.0387**	-0.0515*	-0.0607*
	(-2.39)	(-1.93)	(-1.70)
LogTA	0.0126***	0.0197**	0.0331***
	(2.62)	(2.56)	(3.34)
Deal Size	-0.5298	-0.9917	-1.6115
	(-1.41)	(-1.47)	(-1.54)
Cross-Industry	0.0059	0.0243	0.0580*
	(0.35)	(0.88)	(1.73)
Cross-Border	0.0286	0.0434	0.0900***
	(1.60)	(1.58)	(2.93)
Public	0.0488***	0.0400	0.0462
	(2.71)	(1.51)	(1.33)
ROA	0.0384**	0.0478**	0.0533**
	(2.40)	(2.04)	(2.09)
Leverage	-0.0798	-0.0409	0.0289
	(-1.53)	(-0.51)	(0.19)
Constant	-0.1615**	-0.2499**	-0.4661***
	(-2.30)	(-2.17)	(-3.65)
Observations	4,125	4,125	4,125
R-squared	0.013	0.009	0.011

Table 7 reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{-1}, t_{+2} and t_{+3}. I do not discriminate the method of payment on this analysis. I define a Dummy EM_{t-1}, 1 if acquirer engaged in earnings management prior (1 year) the acquisition, 0 otherwise. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity. The quantitative variables are winsorized at 1st

and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Here again, I do a robustness check for the UK acquirers, to avoid biased results. So I estimate the same regressions (BHAR) from year t to t_{+1}, t_{+2} and t_{+3}, contrasting UK based acquirers with non-UK ones. Thus, Appendix F reports the results for the UK acquirers (model (1), (2) and (3)) and non-UK acquirers (model (4), (5) and (6)). The results sustain the previous conclusions. Firms engaged in EM_{t-1} have a negative impact in BHAR in the 3 following years. However, the results do not exhibit statistical significance, except for the dummy EM_{t-1} from year t to t_{+1}, which shows that firms engaged in EM_{t-1} have a lower BHAR, in average, of about 5,5% in the t to t_{+1}, statistically significant at 5% level.

Furthermore, I finally test the second hypothesis. I regress the baseline regression, but now with a dummy explanatory variable that is 1 when it is stock, 0 otherwise. I cross two explanatory variables used before. First I show that a stock-financed acquisition has a lower BHAR in the 3 following years to the acquisition, on average, -16, -19 and -32 percentage points from t to t_{+1}, t_{+2} and t_{+3}, respectively. Then I show that firms engaged in EM_{t-1} experience a lower BHAR in the following 3 years, on average, -4, -5 and -6 percentage points from t to t+1, t+2 and t+3, respectively. Thus, I create a dummy variable to see if the firms who engaged in EM_{t-1} and made a 100% stock-financed acquisition will underperform, compared to firms who did not engage in EM_{t-1} and made a 100% stock-financed acquisition (from year t to t_{+1}, t_{+2} and t_{+3}). The same logic is applied to 100% cash-financed acquisitions.

Table 8's Panel A shows that the firms who engaged in EM_{t-1} and made a 100% stock-financed acquisition (Model (1), (2) and (3)), experience a lower negative effect in BHAR from year t to t_{+1}, compared to the firms who did not engage in EM_{t-1} and made a 100% stock-financed acquisition (Panel B) (on average, a decrease of -11.93 percentage points (statistically significant at 5% level) and -17.67 percentage points (statistically significant at 1% level) respectively).

However, from year t to t_{+2} and t_{+3}, the conclusions reverse. The firms who engaged in EM_{t-1} and made 100% stock-financed acquisitions, experience a higher negative effect BHAR from year t to t_{+2} and t_{+3}, than the firms who did not engage in EM_{t-1} and made a 100% stock-financed acquisition. On average, there is a decrease of -20.38 and -37.17 percentage points (statistically significant at 1% level) from year t to t_{+2} and t_{+3}, in the presence of earnings management, and -13.45 and -20.40

percentage points (without statistical significance) from year t to t_{+2} and t_{+3} without the presence of earnings management.

The same regression is performed for the 100% cash-financed acquisitions. Model (4), (5) and (6) from both panels show the results for the 100% cash-financed acquisitions. Panel A, shows the results from firms who engaged in EM_{t-1} and made 100% cash-financed acquisitions, and Panel B the results from firms who did not engage in EM_{t-1} and made 100% cash-financed acquisitions.

The results suggest that firms who engaged in EM_{t-1} and made a 100% cash-financed acquisition, tend to have a positive, but smaller impact on BHAR from year t to t_{+1}, t_{+2} and t_{+3}, compared to firms who did not engage in EM_{t-1}. The increase on average, of BHAR from t to t_{+1}, t_{+2} and t_{+3} for the firms who engaged in EM_{t-1} and made a 100% cash-financed acquisition is 3 (10% level of significance), 7 (5% level of significance) and 14 (1% level of significance) percentage points, respectively. On the other side, the firms who did not engage in EM_{t-1} and made a 100% cash-financed acquisition, experienced an increase on average of BHAR from t to t_{+1}, t_{+2} and t_{+3} of 9, 15 and 17 (1% level of significance) percentage points, respectively.

Table 8 - BHAR – EM_{t-1} / No EM_{t-1} with stock / with cash: from t to t_{+1}, t_{+2} and t_{+3}

Panel A – BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – Earnings management$_{t-1}$						
	100% stock-financed			**100% cash-financed**		
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**	**Δ t to t_{+1}**	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)	(4)	(5)	(6)
D EM_{t-1} x Stock 100%	-0.1193**	-0.2038***	-0.3717***	-	-	-
	(-2.50)	(-3.18)	(-6.70)	-	-	-
D EM_{t-1} x Cash 100%	-	-	-	0.0308*	0.0736**	0.1440***
	-	-	-	(1.74)	(2.51)	(4.03)
LogTA	0.0115**	0.0176**	0.0284***	0.0129***	0.0196***	0.0319***
	(2.45)	(2.33)	(2.90)	(2.68)	(2.58)	(3.35)
Deal Size	-0.4805	-0.9051	-1.4480	-0.5287	-0.9822	-1.5864
	(-1.32)	(-1.37)	(-1.44)	(-1.40)	(-1.44)	(-1.51)
Cross-Industry	0.0060	0.0248	0.0599*	0.0045	0.0222	0.0551*
	(0.35)	(0.90)	(1.80)	(0.27)	(0.81)	(1.66)
Cross-Border	0.0279	0.0424	0.0884***	0.0291	0.0450	0.0935***
	(1.56)	(1.55)	(2.89)	(1.63)	(1.64)	(3.05)
Public	0.0557***	0.0520*	0.0688**	0.0461**	0.0344	0.0359
	(3.05)	(1.94)	(1.97)	(2.54)	(1.28)	(1.03)
ROA	0.0370**	0.0453**	0.0489**	0.0381**	0.0470**	0.0518**
	(2.42)	(2.06)	(2.12)	(2.37)	(2.02)	(2.07)
Leverage	-0.0863*	-0.0507	0.0142	-0.0868*	-0.0537	0.0077
	(-1.66)	(-0.64)	(0.09)	(-1.67)	(-0.67)	(0.05)
Constant	-0.1597**	-0.2365**	-0.4185***	-0.1875***	-0.2834**	-0.5036***
	(-2.33)	(-2.12)	(-3.42)	(-2.64)	(-2.50)	(-4.21)
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.015	0.011	0.016	0.012	0.009	0.013

Panel B – BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – No Earnings management $_{t-1}$

	100% stock-financed M&A			100% cash-financed M&A		
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**	**Δ t to t_{+1}**	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)	(4)	(5)	(6)
D $NoEM_{t-1}$ x Stock 100%	-0.1767***	-0.1345	-0.2040	-	-	-
	(-4.90)	(-1.27)	(-1.44)	-	-	-
D $NoEM_{t-1}$ x Cash 100%	-	-	-	0.0937***	0.1499***	0.1654***
	-	-	-	(5.77)	(5.44)	(4.97)
LogTA	0.0090*	0.0139*	0.0267***	0.0114**	0.0193***	0.0321***
	(1.86)	(1.79)	(2.76)	(2.34)	(2.60)	(3.45)
Deal Size	-0.5407	-1.0074	-1.6294	-0.4845	-0.9608	-1.5618
	(-1.49)	(-1.55)	(-1.62)	(-1.38)	(-1.44)	(-1.54)
Cross-Industry	0.0074	0.0269	0.0607*	0.0043	0.0224	0.0555*
	(0.44)	(0.98)	(1.83)	(0.25)	(0.81)	(1.67)
Cross-Border	0.0305*	0.0466*	0.0934***	0.0291	0.0436	0.0905***
	(1.71)	(1.70)	(3.05)	(1.64)	(1.60)	(2.97)
Public	0.0424**	0.0300	0.0351	0.0566***	0.0455*	0.0549
	(2.35)	(1.14)	(1.01)	(3.12)	(1.65)	(1.53)
ROA	0.0380**	0.0471**	0.0526**	0.0383**	0.0477**	0.0532**
	(2.38)	(2.03)	(2.08)	(2.43)	(2.04)	(2.12)
Leverage	-0.0823	-0.0439	0.0252	-0.0881*	-0.0493	0.0177
	(-1.59)	(-0.55)	(0.17)	(-1.71)	(-0.62)	(0.12)
Constant	-0.1583**	-0.2375**	-0.4552***	-0.1562**	-0.2613**	-0.4713***
	(-2.23)	(-2.09)	(-3.81)	(-2.18)	(-2.38)	(-4.13)
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.018	0.013	0.014	0.017	0.009	0.012

Table 8 reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+1}, t_{+2} and t_{+3}. The Panel A and Panel B differentiate in the engagement or not in earnings management in the year prior the acquisition in different methods of payment. D EM_{t-1} x Stock 100% is a dummy variable, 1 if the acquirer engaged in earnings management prior (1 year) to a 100% stock-financed acquisition, and 0 otherwise. The same logic applies to the variable D EM_{t-1} x Cash 100%. The variable D $NoEM_{t-1}$ x Stock 100% is a dummy variable, 1 if the acquirer not engaged in earnings management prior (1 year) a 100% stock-financed acquisition, and 0 otherwise. The same logic applies to the variable D $NoEM_{t-1}$ x Cash 100%. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when the acquirer and target do not belong to the same industry, 0 otherwise. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Once again, I do a robustness test related to the UK acquirers to avoid biased results. So I estimate the same regressions (BHAR) from year t to t_{+1}, t_{+2} and t_{+3}. Thus, Appendix G included Panel A (results of UK acquirers) and Panel B (results of non-UK acquirers). The UK based acquirers who engaged in EM_{t-1} and made a 100% stock-financed acquisition (Model (1), (2) and (3)), do not present statistically significant results, except in the BHAR of t to t_{+3} which experience in average a decrease of 31 percentage points in the BHAR, statistically significant at 1% level. The non-UK acquirers who engaged in EM_{t-1} and made a 100% stock-financed acquisition experience a worse BHAR than the presented for UK acquirers (-20, -26 and -37 percentage points, statistically significant at 1% level.

On the other side, firms from the UK who engaged in EM_{t-1} and made a 100% cash-financed acquisition, tend to have slightly better coefficients to the ones presented on my entire sample (without distinction about the country of the acquirer). Firms who engaged in EM_{t-1} and made a 100% cash-financed acquisition experience better BHAR. The increase on average, of BHAR from t to t_{+1}, t_{+2} and $t_{+3,}$ for the firms who engaged in EM_{t-1} and made a 100% cash-financed acquisition are 4 (10% level of significance), 9 (5% level of significance) and 15 (1% level of significance) percentage points, respectively. As the coefficients are higher in the UK compared to the coefficients presented on all my sample, it is normal that the non-UK acquirers experience a lower BHAR, comparing with the results presented using all the sample (only the t to t_{+3} coefficient (12 percentage points) is statistically significant at 5% level, which means that firms who engaged in EM_{t-1} and made a 100% stock-financed acquisitions experience on average, an increase of about 12 percentage points in BHAR). The same analysis comparing the firms who did not engage in EM_{t-1} is tested, but results in the same patterns, so the respective tables were omitted.

With this analysis, I already have the results for the second hypothesis, and can say that in fact, firms who engaged in EM_{t-1} and made a stock-financed acquisition, tend to suffer a decrease in BHAR 1, 2 and 3 years following the acquisition. On the other hand, firms who did not engage in EM_{t-1} and made a 100% stock-financed acquisition experience a decrease in BHAR in the first year, but in the following years the results are not statistically significant. Yet, the firms who engaged and did not engage in EM_{t-1} and made a 100% cash-financed acquisition, experience a positive long-term return performance, meaning that firms who experience higher values are the ones who were not engaged in EM_{t-1}.

The last analysis that I do, consists on the approach of Teoh et al. (1998). I split earnings management into 2 groups of high versus low earnings management[46]. The way it is computed is similar to the previous analysis. I create dummies variables to distinguish between the firms that belong on the top quartile of EM_{t-1} and the firms that belong on the low quartile of EM_{t-1} and that made a 100% stock-financed acquisition. The same analysis is applied to 100% cash-financed acquisition.

[46] I split into 4 quartiles, then used the top and the bottom, so it became the lowest 25% of earnings management group (Low EM_{t-1}) and the highest 25% of earnings management group (High EM_{t-1}), it is understand as the ones most "conservative" and the more "aggressive" companies.

Table 9 is split in Panel A and Panel B. Panel A shows the results of this regression with 100% stock-financed acquisitions. Panel B shows the results of this regression with 100% cash-financed acquisitions. Panel A reports that firms who belong in the top quartile of EM_{t-1} and that made a 100% stock-financed acquisition (model (3)) experience a decrease of BHAR from t to t_{+1}, on average of 11 percentage points (statistically significant at 5% level). And the low quartile of EM_{t-1} who made a 100% stock-financed acquisition (model (5)) experience an increase of BHAR from t to t_{+1}, on average of 19 percentage points (statistically significant at 1% level). This looks discordant, but as I report in the previous analysis, this value reversed in the second and third year. That is what occurs here.

The same situation is consistent in Panel B. Firms who belong in the top quartile of EM_{t-1} and that made a 100% cash-financed acquisition (model (3)) experience an increase in BHAR from t to t_{+1}, of 0.3 percentage points on average (however, not statistically significant). And the low quartile of EM_{t-1} who made a 100% cash-financed acquisition, experience an increase of BHAR from t to t_{+1}, of 8 percentage points on average (statistically significant at 1% level). As the results obtained with this regression match the previous regression presented, I do not include more tables referring to it.

Table 9 - BHAR – EM_{t-1} Top / Low quartile - 100% stock / 100% cash: from t to t_{+1}

Panel A – BHAR – 100% stock-financed: t to t_{+1} – Top and Low quartile: EM_{t-1}					
	Stock	**Top EM_{t-1}**	**TopEM-1 x Stock**	**Low EM_{t-1}**	**Low EM-1 x Stock**
	(1)	(2)	(3)	(4)	(5)
DStock	-0.1593***	-0.1561***	-	-0.1561***	-
	(-5.04)	(-4.90)	-	(-4.25)	-
D Top EM_{t-1}	-	-0.0636***	-	-	-
	-	(-3.43)	-	-	-
D Top EM_{t-1} x Stock	-	-	-0.1142**	-	-
	-	-	(-2.09)	-	-
D Low EM_{t-1}	-	-	-	-0.0086	-
	-	-	-	(-0.43)	-
D Low EM_{t-1} x Stock	-	-	-	-	-0.1924***
	-	-	-	-	(-4.03)
LogTA	0.0090*	0.0066	0.0118**	0.0089*	0.0117**
	(1.91)	(1.42)	(2.53)	(1.86)	(2.41)
Deal Size	-0.4152	-0.3921	-0.4820	-0.4123	-0.4804
	(-1.24)	(-1.19)	(-1.32)	(-1.23)	(-1.37)
Cross-Industry	0.0060	0.0070	0.0053	0.0060	0.0042
	(0.35)	(0.41)	(0.31)	(0.36)	(0.25)
Cross-Border	0.0286	0.0282	0.0275	0.0286	0.0291
	(1.60)	(1.58)	(1.55)	(1.60)	(1.63)
Public	0.0659***	0.0676***	0.0533***	0.0659***	0.0528***
	(3.59)	(3.68)	(2.93)	(3.59)	(2.93)
ROA	0.0364**	0.0361**	0.0370**	0.0364**	0.0389**
	(2.50)	(2.56)	(2.42)	(2.49)	(2.41)

Leverage	-0.0915*	-0.0790	-0.0868*	-0.0913*	-0.0834
	(-1.77)	(-1.51)	(-1.67)	(-1.76)	(-1.61)
Constant	-0.1208*	-0.0728	-0.1638**	-0.1172*	-0.1637**
	(-1.74)	(-1.08)	(-2.40)	(-1.65)	(-2.28)
Observations	4,125	4,125	4,125	4,125	4,125
R-squared	0.021	0.024	0.014	0.021	0.016

Panel B – BHAR – 100% cash-financed: t to t_{+1} – Top and Low quartile: EM_{t-1}

	Cash	**Top EM_{t-1}**	**Top EM_{t-1} x Cash**	**Low EM_{t-1}**	**Low EM_{t-1} x Cash**
	(1)	(2)	(3)	(4)	(5)
DCash	0.1012***	0.0984***	-	0.1010***	-
	(6.20)	(6.06)	-	(6.18)	-
D Top EM_{t-1}	-	-0.0665***	-	-	-
	-	(-3.57)	-	-	-
D Top EM_{t-1} x Cash	-	-	0.0038	-	-
	-	-	(0.17)	-	-
D Low EM_{t-1}	-	-	-	-0.0083	-
	-	-	-	(-0.42)	-
D Low EM_{t-1} x Cash	-	-	-	-	0.0797***
	-	-	-	-	(3.04)
LogTA	0.0070	0.0044	0.0134***	0.0068	0.0127***
	(1.45)	(0.93)	(2.77)	(1.41)	(2.63)
Deal Size	-0.5164	-0.4874	-0.5357	-0.5134	-0.5535
	(-1.44)	(-1.38)	(-1.42)	(-1.43)	(-1.51)
Cross-Industry	0.0069	0.0079	0.0047	0.0069	0.0050
	(0.41)	(0.47)	(0.28)	(0.41)	(0.30)
Cross-Border	0.0335*	0.0330*	0.0283	0.0335*	0.0288
	(1.87)	(1.85)	(1.59)	(1.87)	(1.62)
Public	0.0356*	0.0384**	0.0478***	0.0356*	0.0464***
	(1.93)	(2.09)	(2.62)	(1.94)	(2.58)
ROA	0.0370**	0.0366**	0.0384**	0.0369**	0.0384**
	(2.40)	(2.46)	(2.37)	(2.39)	(2.37)
Leverage	-0.0930*	-0.0800	-0.0841	-0.0929*	-0.0837
	(-1.81)	(-1.54)	(-1.61)	(-1.80)	(-1.61)
Constant	-0.1523**	-0.1001	-0.1889***	-0.1489**	-0.1873***
	(-2.16)	(-1.47)	(-2.65)	(-2.07)	(-2.64)
Observations	4,125	4,125	4,125	4,125	4,125
R-squared	0.020	0.023	0.012	0.020	0.014

Table 9 reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+1}. Panel A and Panel B differentiate in that Panel A shows 100% stock-financed acquisition and Panel B shows 100% cash-financed acquisition. I split earnings management into 4 quartiles, then I use the top 25% (Top EM_{t-1}) and the bottom 25% (Low EM_{t-1}). Then I connect the dummy variable Top EM_{t-1} and Low EM_{t-1} with the dummy Stock and Cash. D Top EM_{t-1} x Cash, it is 1 when the acquirer engaged in the top quartile of earnings management (higher 25% levels of earnings management) prior (1 year) and the acquisition is financed with 100% cash, 0 otherwise. The same logic applies to the other variations (D Low EM_{t-1} x Cash, D Top EM_{t-1} x Stock, etc.). Dummy Stock (DStock) is a dummy variable, 1 if it is a 100% stock-financed acquisition, 0 otherwise. Dummy Cash (DCash) is a dummy variable, 1 if it is a 100% cash-financed acquisition, 0 otherwise. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when the acquirer and target do not belong to the same industry, 0 otherwise. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

5. Conclusions

In this study, I examine the existence of earnings management (EM) in European Union mergers and acquisitions, from 2000 to 2015. I use a sample of 5,982 completed acquisitions and find no significant differences between the M&A stock-financed and cash-financed. I also report that firm managers tend to manipulate earnings through discretionary accruals in the year prior to announcing an acquisition where stock is used as a method of payment.

Consistent with previous studies, I find evidence that firm managers engage in more aggressive EM prior to the acquisition (1 year) in cases of stock-financed acquisitions. Additionally, in cases of cash-financed acquisitions there is no evidence at all of EM prior to the announcement of the deal. I find that the presence of EM tends to increase the probability of a stock-financed acquisition by 7 percentage points, on average. Also, the presence of EM decreases the chance of a cash-financed acquisition by 13 percentage points, on average.

There is also evidence that the long-term post-acquisition operating performance (operating income scaled by sales) of a firm is hindered after a stock-financed acquisition, in contrast to ones involved in cash-financed M&A.

Furthermore, my results suggest that firms who engaged in EM prior to a M&A, tend to experience a lower long-term returns performance (BHAR) of 4, 5 and 6 percentage points in the year t_{+1}, t_{+2} and t_{+3} following the acquisition (apparently, the UK acquirers deal better with this situation, with a lower 3, 5 and 4 percentage points in the same period).

There is also evidence that firms engaged in EM in year prior to a stock-financed acquisition, experience a lower BHAR of 12, 20 and 37 percentage points on average in the 3 years following the acquisition.

The results also suggest that stock-financed acquisitions have on average, a lower BHAR of about 16 percentage points. On the opposite side, cash-financed acquisitions experience an increase of 10 percentage points, on average.

Already widely stated in the literature, cash-financed acquisitions lead to a better long-term performance compared with stock-financed ones.

To conclude, the presence of EM continues to be a fact. And, is a fact that is currently studied and present in different situations. And, as confirmed, it may carry just a few problems, but they can have considerable impact.

My recommendation for future research is the application of more models to test the EM and with different specifications. Also, test the EM not only the year before but also, 2 years before until 2 years following the acquisition. Besides that, in relation to the operating performance analysis, I recommend the use of Fama and French portfolio approach, to give extra strength to the study, increasing the stability of the results. The use of different variables is also recommended due to the diversity of variables used in existent studies, which can lead to different and controversial results.

In this dissertation I contribute to the existing literature by examining the earnings management and post-acquisition performance of European Union firms involved in mergers and acquisitions (M&A). But indeed, the results are similar to the existing studies, which mostly use the United States and UK as sample.

6. References

Aalbers, M. (2009). Geographies of the financial crisis. *Area*, *41*(1), 34–42. http://doi.org/10.1111/j.1475-4762.2008.00877.x

Agrawal, A., Jaffe, J., & Gershon, M. (1992). The Post-Merger Performance of Acquiring Firms : A Re-Examination of an Anomaly. *The Journal of Finance*, *47*(4), 1605–1621.

Alexandridis, G., Mavis, C. P., & Travlos, N. G. (2011). How Have M&As Changed? Evidence from the Sixth Merger Wave. *European Journal of Finance*, *18*(June), 663–688. http://doi.org/10.1080/1351847X.2011.628401

Alhadab, M., Clacher, I., & Keasey, K. (2015). Real and accrual earnings management and IPO failure risk. *Accounting and Business Research*, *45*(1), 55–92. http://doi.org/10.1080/00014788.2014.969187

Amat, O., Blake, J., & Dowds, J. (1999). The ethics of creative accounting. *Journal of Economic Literature*, (December), 117–118. http://doi.org/10.1163/15733831-12341268

Association of Certified Fraud Examiners. (2014). *Report to the Nations on Occupational Fraud and Abuse: 2014 Global Fraud Study*. Retrieved from http://www.acfe.com/rttn/docs/2014-report-to-nations.pdf

Bao, B. H., Chung, R., Niu, Y., & Wei, S. (2013). Real and accrual earnings management around IPOs: US evidence. *Corporate Ownership and Control*, *10*(3), 76–94.

Barber, B. M., & Lyon, J. D. (1996). Detecting abnormal operating performance: The empirical power and specification of test statistics. *Journal of Financial Economics*, *41*(3), 359–399. http://doi.org/10.1016/0304-405X(96)84701-5

Barber, B. M., & Lyon, J. D. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics*, *43*(3), 341–372. http://doi.org/10.1016/S0304-405X(96)00890-2

Beneish, M. D. (1999). Incentives Earnings and Penalties Related to Overstatements that Violate. *The Accounting Review*, *74*(4), 425–457. http://doi.org/10.2308/accr.1999.74.4.425

Bertrand, O., & Zitouna, H. (2008). Domestic versus cross-border acquisitions: which impact on the target firms' performance? *Applied Economics*, *40*(17), 2221–2238. http://doi.org/10.1080/00036840600949397

Botsari, A., & Meeks, G. (2008). Do acquirers manage earnings prior to a share for share bid? *Journal of Business Finance and Accounting*, *35*(5-6), 633–670. http://doi.org/10.1111/j.1468-5957.2008.02091.x

Bradshaw, M. T., Richardson, S. a, & Sloan, R. G. (2001). Do Analysts and Auditors Use Information in Accruals? *Journal of Accounting Research*, *39*(1), 45–74. http://doi.org/10.2307/2672945

Bureau of Labor Statistics. (2015). Consumer Price Index. *CPI Detailed Report*, 1–133. Retrieved from http://www.bls.gov/cpi/cpid1503.pdf

Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, *24*(1), 99–126. http://doi.org/10.1016/S0165-4101(97)00017-7

Chiraz, D., & Anis, J. (2013). Corporate Governance and Delisting Risk of French IPO Firms. *International Review of Management and Business Research*, *2*(1), 117–127.

Cohen, D., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, *50*(1), 2–19. http://doi.org/10.1016/j.jacceco.2010.01.002

Cohen, L. J., Cornett, M. M., Marcus, A. J., & Tehranian, H. (2014). Bank Earnings Management and Tail Risk during the Financial Crisis. *Journal of Money, Credit and Banking*, *46*(1), 171–197. http://doi.org/10.1111/jmcb.12101

Deangelo, L. E. (1986). Accounting Numbers as Market Valuation Substitutes: A Study of Management Buyouts of Public Stockholders. *The Accounting Review*, *61*(3), 400–420. http://doi.org/DOI:

Dechow, P., & Skinner, D. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, *14*(2), 235–250. http://doi.org/10.2308/acch.2000.14.2.235

Dechow, P., Sloan, R., & Sweeney, A. (1995). Detecting Earnings Management. *The Accounting Review*, *70*(2), 193–225. http://doi.org/10.2307/248303

Dechow, P., Sloan, R., & Sweeney, A. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research*, *13*(1), 1–36. http://doi.org/10.1111/j.1911-3846.1996.tb00490.x

DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics*, *17*(1-2), 145–176. http://doi.org/10.1016/0165-4101(94)90008-6

Erickson, M., & Wang, S. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics*, *27*, 149–176. http://doi.org/10.1016/S0165-4101(99)00008-7

Fauver, L., Loureiro, G., & Taboada, A. G. (2015). Equity Offerings, Stock Price Crash Risk, and the Impact of Securities Regulation: International Evidence. *Working Paper, Núcleo de Investigação Em Políticas Económicas - Universidade Do Minho*, (14). Retrieved from http://hdl.handle.net/1822/38939

Gaver, J., Gaver, K., & Austin, J. (1995). Additional evidence on bonus plans and income management. *Journal of Accounting and Economics*, *19*(1), 3–28. http://doi.org/10.1016/0165-4101(94)00358-C

Ghosh, A. (2001). Does operating performance really improve following corporate acquisitions? *Journal of Corporate Finance*, *7*(2), 151–178. http://doi.org/10.1016/S0929-1199(01)00018-9

Guay, W., Kothari, S., & Watts, R. (1996). A Market-Based Evaluation of Discretionary Accrual Models. *Journal of Accounting Research,* *34*(1996), 83–105. http://doi.org/10.2307/2491427

Hartzell, J., Ofek, E., & David, Y. (2004). What's In It for Me? CEOs Whose Firms Are Acquired. *The Review of Financial Studies*, *17*(1), 37–61. http://doi.org/10.2307/1262668

Healy, P. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, *7*(1-3), 85–107. http://doi.org/10.1016/0165-4101(85)90029-1

Healy, P., & Wahlen, J. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, *13*(4), 365–383. http://doi.org/10.2308/acch.1999.13.4.365

Heron, R., & Lie, E. (2002). Operating Performance and the Method of Payment in Takeovers. *The Journal of Financial and Quantitative Analysis*, *37*(1), 137–155. http://doi.org/10.2307/3594998

Hotchkiss, E. S., & Mooradian, R. M. (1998). Acquisitions as a Means of Restructuring Firms in Chapter 11. *Journal of Financial Intermediation*, *7*(3), 240–262.

International, T. (2015). *Corruption Perceptions Index 2015 report*. Retrieved from http://files.transparency.org/content/download/1952/12820/file/2015_CPI_ReportInfographicsZIP.zip

Jeter, D., & Shivakumar, L. (1999). Cross-Sectional Estimation of Abnormal Accruals Using Quarterly and Annual Data: Effectiveness in Detecting Event-Specific Earnings Management. *Accounting and Business Research*, *29*(4), 1–47.

Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, *29*(2), 193–228. http://doi.org/10.2307/2491047

Jones, M. (2011). *Creative Accounting, Fraud and International Accounting Scandals*. John Wiley & Sons, Inc.

Kim, J., & Zheng, T. (2014). A Review of Merger and Acquisition Wave Literature : Proposing Future Research in the Restaurant Industry A Review of Merger and Acquisition Wave Literature : Proposing Future. *Hospitality Review*, *31*(3). Retrieved from http://digitalcommons.fiu.edu/hospitalityreview/vol31/iss3/4

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, *39*(1), 163–197. http://doi.org/10.1016/j.jacceco.2004.11.002

Kothari, S. P., & Warner, J. B. (2007). *Ch 1 Econometrics of Event Studies*. *Handbook of Empirical Corporate Finance*. http://doi.org/10.1016/B978-0-444-53265-7.50015-9

Kruse, T. A., Park, H. Y., Park, K., & Suzuki, K. (2007). Long-term performance following mergers of Japanese companies: The effect of diversification and affiliation. *Pacific Basin Finance Journal*, *15*(2), 154–172. http://doi.org/10.1016/j.pacfin.2006.07.001

Kummer, C., & Steger, U. (2008). Why merger and acquisition (m&a) waves reoccur: the vicious circle from pressure to failure. *Strategic Management Review*, *2*(1), 44–63. http://doi.org/10.4128/1930-4560-2.1.44

Lee, T., Ingram, R., & Howard, T. (1999). The Difference between Earnings and Operating Cash Flow as an Indicator of Financial Reporting Fraud. *Contemporary Accounting Research*, *16*(4), 749–786. http://doi.org/10.1111/j.1911-3846.1999.tb00603.x

Levitt, A. (1998). The numbers game. *The CPA Journal*, 14–19. Retrieved from http://search.proquest.com/docview/212249652?accountid=39260

Louis, H. (2004). Earnings management and the market performance of acquiring firms. *Journal of Financial Economics*, *74*(1), 121–148. http://doi.org/10.1016/j.jfineco.2003.08.004

Loureiro, G., & Silva, S. (2015). Earnings Management and Stock Price Crashes Post-Crossdelisting. *Working Paper, Núcleo de Investigação Em Políticas Económicas - Universidade Do Minho*, (16). Retrieved from http://hdl.handle.net/1822/38943

Loureiro, G., & Taboada, A. G. (2015). Do Improvements in the Information Environment Enhance Insiders' Ability to Learn from Outsiders? *Journal of Accounting Research*, *53*(4), 863–905.

Mitchell, M. L., & Stafford, E. (2000). *Managerial Decisions and Long-Run Stock Price Performance*. *The Journal of Business* (Vol. 73). http://doi.org/10.1086/209645

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, *73*(2), 201–228. http://doi.org/10.1016/j.jfineco.2003.07.002

Patrick A. Gaughan. (2007). *Mergers, acquisitions, and corporate restructurings* (4th ed.). New Jersey: John Wiley & Sons, Inc.

Perols, J., & Lougee, B. (2011). The relation between earnings management and financial statement fraud. *Advances in Accounting*, *27*(1), 39–53. http://doi.org/10.1016/j.adiac.2010.10.004

PriceWatersHouseCoopers. (2007). Presentation of income under IFRS: flexibility and consistency explored.

Pungaliya, R. S., & Vijh, A. M. (2009). Do Acquiring Firms Manage Earnings ? *Working Paper, Available at SSRN: http://ssrn.com/abstract=1273464*, (319). http://doi.org/10.2139/ssrn.1273464

Rahman, A., & Bakar, A. (2003). Earnings Management and Acquiring Firms Preceding Acquisitions in Malaysia. In *2002 APFA/PACAP/FMA Finance International Conference, Tokyo, Japan* (pp. 1–28). http://doi.org/10.2139/ssrn.318219

Rao-Nicholson, R., Salaber, J., & Cao, T. H. (2016). Long-Term Performance of Mergers and Acquisitions in ASEAN Countries. *Research in International Business and Finance*, *36*, 373–387. http://doi.org/10.1016/j.ribaf.2015.09.024

Roosenboom, P., Van der Goot, T., & Mertens, G. (2003). Earnings management and initial public offerings: Evidence from the Netherlands. *International Journal of Accounting*, *38*(3), 243–266. http://doi.org/10.1016/S0020-7063(03)00048-7

Rossi, S., & Volpin, P. F. (2004). Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics*, *74*(2), 277–304. http://doi.org/10.1016/j.jfineco.2003.10.001

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(3), 335–370. http://doi.org/10.1016/j.jacceco.2006.01.002

Sloan, R. G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *Accounting Review*, *71*(3), 289–315. http://doi.org/10.2307/248290

Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial Economics*, *50*(1), 63–99. http://doi.org/10.1016/S0304-405X(98)00032-4

Vasilescu, C., & Millo, Y. (2016). Do industrial and geographic diversifications have different effects on earnings management? Evidence from UK mergers and acquisitions. *International Review of Financial Analysis*. http://doi.org/10.1016/j.irfa.2016.04.009

Vazirani, N. (2015). A literature review on Mergers and acquisitions waves and theories. *Journal of Management*, *11*(1), 3–10.

Vladu, A. B., & Cuzdriorean, D. D. (2014). Detecting Earnings Management: Insights from the Last Decade Leading Journals Published Research. *Procedia Economics and Finance*, *15*(14), 695–703. http://doi.org/10.1016/S2212-5671(14)00542-5

Watts, R. L., & Zimmerman, J. L. (1990). Positive Accounting Theory: A Then Year Perspective. *The Accounting Review*, *65*(1), 131–156. http://doi.org/10.2307/247880

Zarowin, P. (2015). Estimation of Discretionary Accruals and the Detection of Earnings Management. *Oxford Handbooks Online*, 1–20. http://doi.org/10.1093/oxfordhb/9780199935406.013.20

Appendices

Appendix A - Variables

SDC Platinum Database

The necessary information gathered from this database was (without any preference order):

- Data Announced: to know when occurs an M&A;
- Target/Acquirer Primary SIC Code: to compute the cross industry dummy variable;
- Target Public Status: to know if the target is Public, Private, Subsidiary, Joint Venture or Government Owned;
- Deal Number: it is an unique number which represents each event;
- Target's/Acquirer's Sedol: to find and exclude cases where the target and acquirer is the same, to avoid situations in which the acquirer is acquiring back, partially or totally of his company;
- Percentage of Cash/Stock used to finance the M&A: to know how the M&A was acquired, and by how much of each of cash and/or stock;
- Value of Transaction ($Millions): to compute the relative Deal Size in relation to the acquirer afterwards (Value of Transactions / Total $Assets_{t-1}$);
- Percentage Owned After Transaction: to avoid small M&A deals which could bias the results of this study;
- Target/Acquirer Nation: to compute the cross country dummy variable.

Note: The variables of Percentage of Cash/Stock used to finance the acquisition, in some observations, the sum of both was below 100% (in case of less than 100% in one or another). So, in the cases that one variable has less than 100% and the other has a missing value, I took the assumption that the variable with missing value was the remaining between the variable with value and the 100%. Nevertheless, in 396 observations was not possible to obtain a complete information about the % of stock or % of cash (because the sum of the % of stock and % of cash was below 100%).

WorldScope/DataStream Database

The necessary information gathered from this database was the following (split in separate panels depending for what it is used):

Panel A – Variables: Earnings management		
	WorldScope Code (used on this study)	**Compustat Code (equivalent)**
Total Assets	WC02999	Data item 6
Net Income Before Extra Items/Preferred Dividends	WC01551	Data item 18
Net Cash Flow from Operating Activities	WC04860	Data item 308
Sales or Revenues (Net)	WC01001	Data item 12
Receivables (Net)	WC02051	Data item 2
Property, Plant and Equipment (Gross)	WC02301	Data item 7
Panel B – Variables: Control		
Return on Assets (ROA) = Net Income / Total Assets	WC01551 / WC02999	Data item 18 / Data item 6
Market-to-Book (MTB) = Market Value / Book Value Equity	MVC / WC03501	MVE / (Data item 6 - Data item 181)
Leverage = Total Debt / Total Assets	WC03255 / WC02999	Data item 9 / Data item 6
Panel C – Variables: Long-term Post-Acquisition Performance		
EBIT = Operating income + Non-Operating income	WC18191	Do not exist a specific data item
Sales or Revenues (Net)	WC01001	Data item 12
Total Assets	WC02999	Data item 6
Return Index	RI	Do not exist a specific data item

Appendix B - Correlation Matrix

Id.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	BHAR t to t_{+1}	1.00															
2.	DStock	-0.12	1.00														
3.	DCash	0.08	-0.33**	1.00													
4.	EM_{t-1}	-0.04	0.01	-0.03	1.00												
5.	LogTA	-0.01	-0.20	0.37**	-0.02	1.00											
6.	Deal Size	-0.03	0.12	-0.08	0.02	-0.13	1.00										
7.	Cross-Industry	0.01	0.03	0.00	-0.02	0.01	-0.04	1.00									
8.	Cross-Border	0.02	0.05	-0.17	0.00	-0.29	0.03	-0.06	1.00								
9.	Public	0.00	-0.10	-0.20	0.02	-0.37**	0.03	-0.05	0.09	1.00							
10.	MTB	-0.09	0.00	0.04	0.01	0.05	0.02	0.00	-0.05	0.00	1.00						
11.	MTB_{t-1}	-0.03	0.01	0.00	-0.03	0.04	-0.03	0.02	-0.04	-0.03	0.49**	1.00					
12.	ROA	0.12	-0.25	0.20	0.08	0.31**	-0.18	0.05	-0.09	0.01	-0.05	0.04	1.00				
13.	ROA_{t-1}	0.05	-0.26	0.20	0.25	0.30**	-0.10	0.03	-0.12	-0.03	0.04	0.00	0.51**	1.00			
14.	Leverage	-0.02	-0.08	0.13	0.03	0.38**	-0.02	0.00	-0.07	-0.10	0.03	0.00	0.02	0.07	1.00		
15.	$Leverage_{t-1}$	0.02	-0.06	0.14	0.03	0.37**	0.00	-0.01	-0.06	-0.09	0.00	-0.01	0.08	0.08	0.87***	1.00	
16.	UK	0.06	-0.13	-0.09	-0.05	-0.20	-0.02	-0.06	0.20	0.18	0.00	-0.02	0.01	-0.02	-0.10	-0.06	1.00

The Appendix B reports the correlation matrix for all main variables that I use of my full sample. Note that, between 0 and 0.3 is a low correlation (marked with *), between 0.3 and 0.7 is moderate correlation (marked with **) and 0.7 and 1 is strong correlation (marked with ***), the same applies to negative values. DStock is a dummy variable, 1 if it is a 100% stock-financed acquisition, 0 otherwise. BHAR is the buy-and-hold abnormal return variable from t to t_{+1}.DCash is a dummy variable, 1 if it is a 100% cash-financed acquisition, 0 otherwise. EM_{t-1} is the earnings management (estimated using the Modified-Jones (1991) model in the year preceding the announcement date. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. MTB is the Market to Book (Market Value / Book Value Equity). ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). MTB_{t-1}, ROA_{t-1}, and $Leverage_{t-1}$ variables are lagged variables, year preceding the acquisition (same way of computing as the non-lagged). UK is a dummy variable, 1 if it is a UK acquirer, 0 otherwise. The quantitative variables are winsorized at 1st and 99th percentile. All variables are defined in Appendix A.

Appendix C - Operating income scaled by sales: Δ from t_{-1} to t_{+1}, t_{+2} and t_{+3} (100% stock & Non-100% cash)

Panel A – Operating income scaled by sales - Univariate analysis: Country-, Year-, Industry-adjusted (Median)

Years	Mean 100% stock (A)	Mean Non-100% stock (B)	Difference (A-B)	Median 100% stock (C)	Median Non-100% stock (D)	Difference (C-D)	Obs. 100% stock	Obs. 100% cash
Δ t_{-1} to t_{+1}	-0.051379	0.066457	-0.117836 (0.9334)	-0.014279	0.001473	-0.015752* (0.0682)	386	3223
Δ t_{-1} to t_{+2}	0.058589	0.400300	-0.341711 (0.7603)	0.013193	0.000381	0.012812 (0.1946)	369	3197
Δ t_{-1} to t_{+3}	-1.980190	-0.024634	-1.955556* (0.0524)	-0.012234	0.001709	-0.013942 (0.2033)	365	3179

Panel B – Operating income scaled by sales - Univariate analysis: Country-, Year-, Industry-adjusted (Mean)

Years	Mean 100% stock (A)	Mean Non-100% stock (B)	Difference (A-B)	Median 100% stock (C)	Median Non-100% stock (D)	Difference (C-D)	Obs. 100% stock	Obs. 100% cash
Δ t_{-1} to t_{+1}	-0.074362	0.056957	-0.131318 (0.9258)	-0.013477	0.006621	-0.020099* (0.065900)	386	3223
Δ t_{-1} to t_{+2}	0.041277	0.390863	-0.349587 (0.7548)	0.007900	0.000980	0.006920 (0.4521)	369	3197
Δ t_{-1} to t_{+3}	-1.769019	-0.1045524	-1.664467* (0.0996)	-0.0198011	0.0010449	-0.020846* (0.0978)	365	3179

Median and mean changes in operating income scaled by sales. Country-, Year-, Industry-adjusted by median (Panel A) and by mean (Panel B). The process that I apply is described in 3.2.2.1. The year before 0 belongs to acquirer only, while the subsequent years represent the M&A firms. Years is the variation between the year preceding (two years preceding leads to similar conclusions) the acquisition and the years following the acquisition (t_{+1}, t_{+2} and t_{+3}). (A) and (B) represent the mean of 100% stock and non-100% stock acquisitions respectively. (A) and (B) represent the median of 100% stock and non-100% stock acquisitions respectively. The number of observations (both stock and non-stock) decrease over time, since some firms fail to survive for the whole period-analysis following the acquisition. The variables are winsorized at 1st and 99th percentile. The operating income scaled by sales (EBIT / Sales), both are defined in Appendix A. Significance is based on t-statistics (in parenthesis) and Wilcoxon rank-sum z-statistics (in parenthesis), which shows that the mean/median is significant different between the groups, ***, ** and * indicate 1%, 5% and 10% respectively.

Appendix D - BHAR – 100% stock-financed and 100% cash-financed from t to t_{+2} and t_{+3}

Panel A – BHAR – 100% stock-financed: t to t_{+2}

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)	Cluster Country-Year (F.E.)	Cluster Country-Year (F.E.)
	(1)	(2)	(3)	(4)	(5)	(6)
DStock	-0.1876***	-0.1994***	-0.1876**	-0.1994***	-0.1876***	-0.1994***
	(-3.09)	(-3.43)	(-2.92)	(-3.71)	(-3.22)	(-3.90)
LogTA	0.0157**	0.0130*	0.0157	0.0130	0.0157	0.0130
	(2.16)	(1.66)	(1.54)	(1.32)	(1.60)	(1.40)
	(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)					
Constant	-0.2061*	-0.3402*	-0.2061	-0.3402**	-0.2061	-0.3402**
	(-1.93)	(-1.74)	(-1.23)	(-2.32)	(-1.33)	(-2.27)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes
Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.012	0.043	0.012	0.043	0.012	0.043

Panel B – BHAR – 100% stock-financed: t to t_{+3}

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)	Cluster Country-Year (F.E.)	Cluster Country-Year (F.E.)
	(1)	(2)	(3)	(4)	(5)	(6)
DStock	-0.3213***	-0.3184***	-0.3213***	-0.3184***	-0.3213***	-0.3184***
	(-4.46)	(-4.64)	(-4.86)	(-5.73)	(-4.25)	(-4.67)
LogTA	0.0256***	0.0229**	0.0256**	0.0229**	0.0256**	0.0229**
	(2.73)	(2.26)	(2.69)	(2.42)	(2.53)	(2.34)
	(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)					
Constant	-0.3719***	-0.6069***	-0.3719**	-0.6069***	-0.3719***	-0.6069***
	(-3.22)	(-3.07)	(-2.75)	(-3.44)	(-2.73)	(-4.13)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes
Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.018	0.040	0.018	0.040	0.018	0.040

Panel C – BHAR – 100% cash-financed: t to t_{+2}

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)	Cluster Country-Year (F.E.)	Cluster Country-Year (F.E.)
	(1)	(2)	(3)	(4)	(5)	(6)
DCash	0.1805***	0.1703***	0.1805***	0.1703***	0.1805***	0.1703***
	(6.90)	(6.59)	(6.40)	(6.74)	(7.61)	(7.38)
LogTA	0.0094	0.0091	0.0094	0.0091	0.0094	0.0091
	(1.23)	(1.12)	(0.88)	(0.88)	(0.97)	(0.97)
	(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)					
Constant	-0.2212**	-0.4441**	-0.2212	-0.4441**	-0.2212	-0.4441**
	(-1.97)	(-2.12)	(-1.27)	(-2.60)	(-1.43)	(-2.62)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes

Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.018	0.047	0.018	0.047	0.018	0.047

Panel D – BHAR – 100% cash-financed: t to t_{+3}

	No cluster	**No cluster (F.E.)**	**Cluster Year**	**Cluster Year (F.E.)**	**Cluster Country-Year (F.E.)**	**Cluster Country-Year (F.E.)**
	(1)	(2)	(3)	(4)	(5)	(6)
DCash	0.2470***	0.2333***	0.2470***	0.2333***	0.2470***	0.2333***
	(7.66)	(7.18)	(6.46)	(6.63)	(7.43)	(7.43)
LogTA	0.0187**	0.0191*	0.0187*	0.0191*	0.0187*	0.0191*
	(2.01)	(1.88)	(1.85)	(1.95)	(1.83)	(1.89)
	(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)					
Constant	-0.4201***	-0.7804***	-0.4201***	-0.7804***	-0.4201***	-0.7804***
	(-3.58)	(-3.96)	(-3.07)	(-4.35)	(-3.08)	(-5.09)
Year Fixed Effect	No	Yes	No	Yes	No	Yes
Country Fixed Effect	No	Yes	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes	Yes	Yes
Cluster Country	No	No	No	No	Yes	Yes
Observations	4,125	4,125	4,125	4,125	4,125	4,125
R-squared	0.021	0.042	0.021	0.042	0.021	0.042

Appendix D reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+2} and t_{+3} in 100% stock-financed acquisitions (Panel A and B) and 100% cash-financed acquisitions (Panel C and D). Panel A and Panel C represents the analyses from t to t_{+2}. Panel B and Panel D represents the analyses from t to t_{+3}. Dummy Stock (DStock), 1 if it is a 100% stock-financed acquisition, 0 otherwise. Dummy Cash (DCash), 1 if it is a 100% stock-financed acquisition, 0 otherwise. LogTA is the logarithm of Total Assets. The following variables were omitted due the insignificancy to what I am analyzing, but the variables are calculated by the following way: Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity I use fixed effects (year, country and industry) to control for any unobservable or omitted factors that may influence the acquisitions (in model (2) (4) and (6). I use cluster by year and by country-year, in model (3), (4), (5) and (6) I include the cluster by year, in model (4), (5) and (6) I also include the cluster by Country. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Appendix E - BHAR – 100% stock-financed & 100% cash-financed: UK & Non-UK from t to t_{+1}

Panel A – BHAR – 100% stock-financed: t to t_{+1} – Acquirers from UK

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)
	(1)	(2)	(3)	(4)
DStock	-0.1020**	-0.1215**	-0.1020*	-0.1215**
	(-2.00)	(-2.45)	(-1.80)	(-2.16)
Log TA	0.0107*	0.0081	0.0107	0.0081
	(1.80)	(1.31)	(1.28)	(0.99)
(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)				
Constant	-0.1268	-0.1022	-0.1268	-0.1022
	(-1.50)	(-1.08)	(-0.95)	(-1.01)
Year Fixed Effect	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes
Observations	3,112	3,112	3,112	3,112
R-squared	0.014	0.061	0.014	0.061

Panel B – BHAR – 100% stock-financed: t to t_{+1} – Acquirers from Non-UK

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)
	(1)	(2)	(3)	(4)
DStock	-0.1726***	-0.1792***	-0.1726***	-0.1792***
	(-5.40)	(-5.65)	(-5.95)	(-5.10)
LogTA	0.0081	0.0097	0.0081	0.0097
	(1.17)	(1.39)	(0.98)	(1.12)
(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)				
Constant	-0.1745	-0.2518	-0.1745	-0.2518*
	(-1.55)	(-0.94)	(-1.26)	(-1.92)
Year Fixed Effect	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes
Observations	1,013	1,013	1,013	1,013
R-squared	0.091	0.151	0.091	0.151

Panel C – BHAR – 100% cash-financed: t to t_{+1} – Acquirers from UK

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)
	(1)	(2)	(3)	(4)
DCash	0.1036***	0.0894***	0.1036***	0.0894***
	(5.32)	(4.64)	(4.38)	(3.76)
LogTA	0.0066	0.0061	0.0066	0.0061
(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)				
Constant	-0.1257	-0.1281	-0.1257	-0.1281
	(-1.44)	(-1.32)	(-0.88)	(-1.14)
Year Fixed Effect	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes
Observations	3,112	3,112	3,112	3,112
R-squared	0.019	0.063	0.019	0.063

Panel D – BHAR – 100% cash-financed: t to t_{+1} – Acquirers from Non-UK

	No cluster	No cluster (F.E.)	Cluster Year	Cluster Year (F.E.)
	(1)	(2)	(3)	(4)
DCash	0.0807***	0.0851***	0.0807***	0.0851***
	(2.84)	(3.04)	(3.37)	(3.41)

LogTA	0.0087	0.0106	0.0087	0.0106
	(1.29)	(1.56)	(1.11)	(1.34)
(Deal Size, Cross-Industry, Cross-Border, Public, ROA and Leverage variables are estimated but omitted)				
Constant	-0.2482**	-0.3663	-0.2482*	-0.3663***
	(-2.24)	(-1.42)	(-1.89)	(-3.15)
Year Fixed Effect	No	Yes	No	Yes
Industry Fixed Effect	No	Yes	No	Yes
Cluster Year	No	No	Yes	Yes
Observations	1,013	1,013	1,013	1,013
R-squared	0.075	0.135	0.075	0.135

Appendix E reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+1} in UK acquirers and non-UK acquirers. It is split into 4 panels (Panel A, B, C and D). Panel A (UK acquirers) and Panel B (non-UK acquirers) focus on the analysis of the explanatory variable 100% stock-financed acquisitions. Panel C (UK acquirers) and Panel D (non-UK acquirers) focus on the analysis of the explanatory variable 100% cash-financed acquisitions. Dummy Stock (DStock), 1 if it is a 100% stock-financed acquisition, 0 otherwise. Dummy Cash (DCash), 1 if it is a 100% stock-financed acquisition, 0 otherwise. LogTA is the logarithm of Total Assets. The following variables were omitted due the insignificancy to what I am analyzing, but the variables are calculated by the following way: Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity I use fixed effects (year and industry in models (2) and (4)) to control for any unobservable or omitted factors that may influence the acquisitions. I use cluster by year in model (3) and (4). The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Appendix F - BHAR – EM_{t-1} impact: UK & Non-UK from t to t_{+1}, t_{+2} and t_{+3}

BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – Earnings management$_{t-1}$						
	Acquirers from UK			**Acquirers from Non-UK**		
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**	**Δ t to t_{+1}**	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)	(4)	(5)	(6)
Dummy EM_{t-1}	-0.0265	-0.0454	-0.0441	-0.0546**	-0.0567	-0.0937
	(-1.34)	(-1.47)	(-1.09)	(-2.06)	(-0.99)	(-1.09)
LogTA	0.0130**	0.0248***	0.0445***	0.0110	0.0027	-0.0003
	(2.14)	(2.64)	(3.79)	(1.60)	(0.19)	(-0.01)
Deal Size	-0.1796	-0.4217	-0.5542	-6.5743***	-9.6081***	-12.4108***
	(-0.59)	(-0.69)	(-0.77)	(-2.70)	(-2.68)	(-2.91)
Cross-Industry	0.0169	0.0268	0.0612	-0.0158	0.0282	0.0606
	(0.84)	(0.85)	(1.58)	(-0.54)	(0.47)	(0.95)
Cross-Border	0.0313	0.0489	0.0998***	-0.0076	0.0029	0.0145
	(1.43)	(1.55)	(2.77)	(-0.26)	(0.05)	(0.21)
Public	0.0526**	0.0446	0.0455	0.0641**	0.0627	0.1109**
	(2.29)	(1.36)	(1.03)	(2.45)	(1.34)	(2.05)
ROA	0.0375**	0.0463*	0.0589*	0.1985***	0.2721***	0.3101***
	(1.98)	(1.67)	(1.75)	(3.12)	(2.89)	(2.73)
Leverage	-0.1423**	-0.1635*	-0.0411	0.1516*	0.3707**	0.2821
	(-2.26)	(-1.80)	(-0.21)	(1.85)	(2.24)	(1.49)
Constant	-0.1529*	-0.2861**	-0.5879***	-0.2094*	-0.1365	-0.1144
	(-1.76)	(-2.10)	(-4.09)	(-1.90)	(-0.58)	(-0.37)
Observations	3,112	3,112	3,112	1,013	1,013	1,013
R-squared	0.012	0.010	0.014	0.071	0.028	0.023

Appendix F reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+1}, t_{+2} and t_{+3} in UK acquirers and non-UK acquirers. I do not discriminate the method of payment in this analysis. The results of acquirers from UK and non-UK are presented (UK acquirers from year t to t_{+1}, t_{+2} and t_{+3} in model (1), (2) and (3), respectively, and non-UK acquirers from year t to t_{+1}, t_{+2} and t_{+3} in model (4), (5) and (6), respectively). I define a Dummy EM_{t-1}, 1 if it exist positive earnings management prior (1 year) the acquisition, 0 otherwise. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total $Assets_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.

Appendix G - BHAR – EM_{t-1} with stock / with cash – UK & Non-UK from t to t_{+1}, t_{+2} and t_{+3}

Panel A – BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – Earnings management$_{t-1}$– Acquirers from UK						
	100% stock-financed			**100% cash-financed**		
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**	**Δ t to t_{+1}**	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)	(4)	(5)	(6)
D EM_{t-1} x Stock 100%	0.0227	-0.0969	-0.3052***	-	-	-
	(0.27)	(-0.86)	(-3.49)	-	-	-
D EM_{t-1} x Cash 100%	-	-	-	0.0405*	0.0941**	0.1485***
	-	-	-	(1.81)	(2.54)	(3.28)
LogTA	0.0127**	0.0237**	0.0422***	0.0139**	0.0242***	0.0404***
	(2.09)	(2.57)	(3.71)	(2.39)	(2.68)	(3.45)
Deal Size	-0.1880	-0.4327	-0.5569	-0.2045	-0.3989	-0.4302
	(-0.60)	(-0.68)	(-0.74)	(-0.65)	(-0.65)	(-0.62)
Cross-Industry	0.0161	0.0251	0.0589	0.0167	0.0252	0.0576
	(0.80)	(0.80)	(1.53)	(0.83)	(0.80)	(1.50)
Cross-Border	0.0317	0.0500	0.1017***	0.0316	0.0463	0.0924***
	(1.45)	(1.58)	(2.83)	(1.48)	(1.51)	(2.59)
Public	0.0506**	0.0399	0.0380	0.0513**	0.0510	0.0651

	(2.18)	(1.21)	(0.86)	(2.16)	(1.52)	(1.46)
ROA	0.0369**	0.0451*	0.0573*	0.0374**	0.0452*	0.0563*
	(1.97)	(1.65)	(1.74)	(1.96)	(1.66)	(1.79)
Leverage	-0.1475**	-0.1746*	-0.0568	-0.1433**	-0.1693*	-0.0529
	(-2.35)	(-1.93)	(-0.30)	(-2.27)	(-1.88)	(-0.28)
Constant	-0.1671*	-0.3080**	-0.6035***	-0.1768**	-0.2933**	-0.5424***
	(-1.90)	(-2.31)	(-4.39)	(-2.15)	(-2.30)	(-3.86)
Observations	3,112	3,112	3,112	3,112	3,112	3,112
R-squared	0.012	0.011	0.016	0.011	0.009	0.016

Panel B – BHAR: Δ t to t_{+1}, t_{+2} and t_{+3} – No Earnings management$_{t-1}$– Acquirers from Non-UK

	100% stock-financed M&A			**100% cash-financed M&A**		
	Δ t to t_{+1}	**Δ t to t_{+2}**	**Δ t to t_{+3}**	**Δ t to t_{+1}**	**Δ t to t_{+2}**	**Δ t to t_{+3}**
	(1)	(2)	(3)	(4)	(5)	(6)
D NoEM$_{t-1}$ x Stock 100%	-0.2014***	-0.2630***	-0.3702***	-	-	-
	(-5.70)	(-3.95)	(-3.71)	-	-	-
D NoEM$_{t-1}$ x Cash 100%	-	-	-	0.0082	0.0165	0.1233**
	-	-	-	(0.32)	(0.38)	(2.33)
LogTA	0.0092	-0.0002	-0.0038	0.0128*	0.0046	0.0029
	(1.33)	(-0.01)	(-0.20)	(1.87)	(0.34)	(0.16)
Deal Size	-5.8685**	-8.6808**	-11.1109**	-6.5748***	-9.5887***	-12.1373***
	(-2.45)	(-2.41)	(-2.57)	(-2.73)	(-2.70)	(-2.94)
Cross-Industry	-0.0086	0.0386	0.0742	-0.0199	0.0240	0.0543
	(-0.30)	(0.66)	(1.19)	(-0.68)	(0.41)	(0.91)
Cross-Border	0.0092	0.0256	0.0457	-0.0097	0.0012	0.0171
	(0.32)	(0.44)	(0.65)	(-0.33)	(0.02)	(0.27)
Public	0.0691***	0.0704	0.1206**	0.0595**	0.0573	0.0932*
	(2.68)	(1.54)	(2.26)	(2.26)	(1.23)	(1.72)
ROA	0.1784***	0.2454**	0.2730**	0.1995***	0.2725***	0.3042***
	(2.85)	(2.58)	(2.36)	(3.16)	(2.92)	(2.78)
Leverage	0.1332	0.3492**	0.2495	0.1405*	0.3578**	0.2464
	(1.62)	(2.11)	(1.25)	(1.72)	(2.18)	(1.27)
Constant	-0.1998*	-0.1116	-0.0911	-0.2576**	-0.1883	-0.2203
	(-1.78)	(-0.47)	(-0.33)	(-2.29)	(-0.80)	(-0.84)
Observations	1,013	1,013	1,013	1,013	1,013	1,013
R-squared	0.089	0.036	0.032	0.067	0.026	0.024

Appendix G reports the results of the long-term returns performance regressions (BHAR) explained in the section 3.2.2.2 from t to t_{+1} t_{+2} and t_{+3} in UK acquirers and non-UK acquirers. The Panel A and Panel B differentiate in one way, Panel A shows the results of UK acquirers, and Panel B shows the results of non-UK acquirers. In each Panel, the results of both method of payment are presented (100% stock from year t to t_{+1} t_{+2} and t_{+3} in model (1), (2) and (3), respectively, and 100% cash from year t to t_{+1} t_{+2} and t_{+3} in model (4), (5) and (6), respectively). D EM$_{t-1}$ x Stock 100% is a dummy variable, 1 if exists positive earnings management prior (1 year) the acquisition and financed the acquisition with 100% stock, 0 otherwise. The same logic applies to the variable D EM$_{t-1}$ x Cash 100%. LogTA is the logarithm of Total Assets. Deal Size variable is the Relative Deal Size (Value of Transaction / Total Assets$_{t-1}$). Cross-Industry is a dummy variable, it is 1 when exists cross-industry between acquirer and target. The Cross-Border is a dummy variable, 1 if it is a cross-border acquisition, 0 otherwise. The Public is a dummy variable, 1 if it is a public target, 0 otherwise. ROA is Return on Assets (Net Income / Total Assets). Leverage is the (Total Debt / Total Assets). I use White-robust standard errors to correct for heteroscedasticity. The quantitative variables are winsorized at 1st and 99th percentile. Robust t-statistics in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. All variables are defined in Appendix A.