

The Predictive Value of Items Excluded from Pro-Forma Earnings Before and During the Financial Crisis

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ABSTRACT:

This paper explores the future implications of items excluded from pro forma earnings on future operating cash flows under two different macroeconomic conditions; before and during the financial crisis. We find that future implications of excluded items differ for the crisis and non-crisis scenario, a difference driven by high profitability firms. Findings indicate that high profitability firms make the majority of misclassifications of excluding non-transitory items from pro forma earnings, and these misclassifications increase during the financial crisis. Results are in line with prior research in that most types of excluded items do have future implications on future firm performance. Findings have implications for users of financial statements, especially analysts and investors. As excluded items do have predictive abilities for future cash flows, exclusions should not be disregarded when performing financial statement analysis and should be analysed based on the type of exclusion made, profitability of the firm and – for high profitability firms – the macroeconomic environment.

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LIST OF ABBREVIATIONS

ABX – assets backed securities

EPS – earnings per share

e.g. – *exempli gratia*

et al. – *et alia*

GAAP – Generally Accepted Accounting Principles

GDP – gross domestic product

i.e. – *id est*

IT – information technology

LIBOR – London Interbank Offered Rate

OECD – Organisation for Economic Co-operation and Development

R&D – research and development

SEC – United States Securities Exchange Commission

SOX – Sarbanes Oxley Act

US – United States

USD – United States Dollar

1. INTRODUCTION

It has become increasingly common practice for companies to present an alternative earnings measure called pro forma earnings (also known as street or operating earnings). This measure is reported in addition to generally accepted accounting principles (GAAP) earnings and excludes so called non-recurring items. Companies disclose pro forma earnings to provide analysts and investors with an earnings measure that is more relevant for predictions of future firm performance. For example, Google (2009) states in its quarterly earnings release:

Our management believes that these non-GAAP financial measures provide meaningful supplemental information regarding our performance and liquidity by excluding certain expenses and expenditures that may not be indicative of our “recurring core business operating results,” meaning our operating performance excluding not only non-cash charges, such as stock-based compensation, but also discrete cash charges that are infrequent in nature. We believe that both management and investors benefit from referring to these non-GAAP financial measures in assessing our performance and when planning, forecasting, and analyzing future periods.

However, critics argue that as pro forma earnings do not follow any generally accepted accounting standards there is no knowing what is included or not in the earnings measure and it can be used for opportunistic purposes (e.g. Elstein 2001; Liesman and Weil 2001). Dreman (2001) expresses his concerns in the following manner:

Until /.../ shenanigans are sharply restricted, beware of any company that reports nice pro forma or operating earnings. Or that calls the cost of doing business a nonrecurring charge. Good old-fashioned net income, as determined by GAAP, is all you should care about.

In essence, for pro forma earnings to be useful for investors and analysts, the items that are excluded must be non-recurring in the sense that they do not have predictive values for future firm performance. This issue of the non-recurring nature of total exclusions has been questioned by numerous studies, and results differ.

We intend to evaluate one possible explanation for the difference in results of previous studies up to now unevaluated by scholars, namely the possibility that the macroeconomic environment affects the future implications of non-recurring items. With GAAP earnings having different value relevance during different macroeconomic settings (see e.g. Zhou 2012; Davis-Friday and Gordon 2005; Graham et al. 2000), we expect the value relevance of items excluded from pro forma earnings in terms of predictive abilities for future cash flows also to differ based on different economic conditions. Our research question is thus as follows:

Do items excluded from pro forma earnings have different implications for a firm's future performance during different macroeconomic environments?

In this paper, we address this question taking on the following approach. In Section 2 we present a literature review on the research field studying pro forma earnings. Based on this review, in Section 3 we develop our hypotheses. In Section 4 we present the method applied to test our hypotheses and describe the sample. In Section 5 we perform two tests, report and analyse our results. First we divide total exclusions into four subcategories based on their expected effect on future cash flows; income increasing special items, income decreasing special items, income increasing other exclusions and income decreasing other exclusions, and test their separate impact on future operating cash flows. Second, we perform the same test for two subcategories of firms; firms ranked as high and low core profitability. In Section 6 we discuss limitations of our study. Finally, in Section 7, we summarise and conclude our findings.

2. PREVIOUS LITERATURE

This literature review aims to give an overview of the relatively recent academic field studying pro forma versus GAAP earnings. We have identified four main focus areas within the field, which we review below. The first focus area analyses pro forma earnings and exclusions from a descriptive point of view. The second focus area studies whether the exclusions made from pro forma earnings are non-recurring or recurring in nature. The third investigates potential motivations for companies to report pro forma earnings. The final theme investigates whether effects of exclusions are incorporated into stock prices.

2.1 Focus Area 1: Descriptive Analysis

Starting at the basic level of defining concepts, GAAP earnings are defined as net income before discontinued operations and extraordinary items (Compustat data item IBQ). Pro forma earnings are defined as GAAP earnings less excluded items, calculated as:

$$\frac{\begin{array}{l} \text{GAAP earnings} \\ \text{Less: Total excluded items} \end{array}}{\text{Pro forma earnings}}$$

However, research has struggled when defining what the items excluded from pro forma earnings consist of. Perhaps this is mainly due to the fact that it is up to every individual company to determine what is included and what is excluded from pro forma earnings (Doyle et al. 2003). One classification that is possible to make is to divide total excluded items into two parts; special items and other exclusions. Special items is separately classified in Compustat (SPIQ) and includes non-recurring non-core and non-cash items such as (Standard & Poor's 2014):

- Impairment of goodwill/unamortised intangibles
- Write-down of assets
- Write-downs or write-offs of receivables, intangibles, among others

- Non-recurring profit or loss on the sale of assets, investments, securities, among others
- Profit or loss on the repurchase of debentures
- Purchased research and development
- Relocation and moving expense
- Restructuring charges (includes closing and exit costs)
- Interest on tax settlements (when reported separately from other interest expense)
- Current year's results of discontinued operations
- Flood, fire, and other natural disaster losses
- Adjustments applicable to prior years (except recurring prior year income tax adjustments)

Notice the prevalence of expenses in this list. Gains are mainly made up of proceeds from the divestment of assets and subsidiaries.

Any remaining residual between GAAP and pro forma earnings after deducting special items from GAAP earnings are labelled other excluded items. Other excluded items can thus be calculated as:

$$\begin{array}{r} \text{Total excluded items} \\ \text{Less: Special items} \\ \hline \text{Other excluded items} \end{array}$$

From that follows that the difference between GAAP earnings and pro forma earnings can also be calculated as:

$$\begin{array}{r} \text{GAAP earnings} \\ \text{Less: Special items} \\ \text{Less: Other excluded items} \\ \hline \text{Pro forma earnings} \end{array}$$

Doyle et al. (2003) study these other excluded items and deem them decidedly more vague and hard to define than special items. They identify items such as exclusion of operating losses from stores scheduled to be closed in the future, stock compensation expenses, in-process research and development (R&D) charges and legal settlement costs in their sample.

Research has reached consensus on a number of descriptive characteristics of excluded items. One aspect is that pro forma earnings are on average higher than GAAP earnings, meaning that exclusions more often consist of expenses than income posts (e.g. Burgstahler et al. 2002; Bhattacharya et al. 2003). Another aspect is that the use of pro forma earnings figures has increased over time. The increase concerns both the frequency of reported pro forma earnings and the magnitude of total exclusions (Bradshaw and Sloan 2002; Fairfield et al. 2009). Also, companies that report a large write-off are more likely to report additional write-offs, indicating that some companies report non-recurring items on a recurring basis (Elliott and Hanna 1994).

During 2001 and 2002, a temporary break in this trend of companies increasingly reporting pro forma earnings has been observed. Then, a shift away from reporting pro forma earnings occurred due to big accounting scandals (Bowen et al. 2005). After the implementation of the Sarbanes Oxley Act (SOX) in the beginning of 2000s' the total items excluded from pro forma earnings became more transitory on an aggregated level, while special items became less transitory (Kolev et al. 2008). Interestingly, this indicates that the SOX had dual effects. It achieved its goal of making excluded items more non-recurring on an overall level while it at the same time made more companies shift more recurring items to special items – reducing the quality (in terms of excluded items being transitory and thereby non-relevant for future firm performance) for this type of exclusions.

In terms of quarterly differences in pro forma earnings, it is more common for companies to report special items in the fourth fiscal quarter (Burgstahler et al. 2002). On a more nuanced level, Das et al. (2009) find that companies that report negative earnings changes in interim quarters are more likely to report pro forma earnings that are higher than their GAAP earnings in the last fiscal quarter. Vice versa, companies that report positive earnings changes in interim quarters are more likely to report pro forma earnings that are lower than their GAAP earnings in the last fiscal quarter. The first practice is more common for companies with low growth/low profitability and the second practice is more common for companies with high growth/high profitability.

There are also differences in how companies choose to present items that are excluded in pro forma earnings. Excluded cost items are more likely to be presented on a separate line in the income statement while excluded income items are more likely only presented in footnotes, presumably to highlight the non-recurring nature of expenses and make the non-recurring nature of income items less pronounced (Kinney and Trezevant 1997). In press releases, companies generally present pro forma earnings before presenting GAAP earnings (Bhattacharya et al. 2003).

Bhattacharya et al. (2003) also perform an extensive industry analysis on which type of companies that are more prone to use pro forma earnings as an alternative to GAAP earnings. They find it is more common that firms in the information technology (IT) and service industry report pro forma figures. They also find that companies that are close to bankruptcy are more likely to report pro forma earnings, regardless of industry.

2.2 Focus Area 2: Are Exclusions Non-Recurring or Recurring in Nature?

As stated above, for pro forma earnings to be useful for investors and analysts the items excluded must be non-recurring, i.e. that they do not hold predictive abilities for future firm performance. However, several studies have questioned this proposition, and results differ.

Starting with looking at only the part of exclusions labelled special items, roughly two-thirds of total special items have been found to be non-recurring while one-third would be better classified as recurring expenses (Anilowski Cain et al. 2013). Burgstahler et al. (2002) study whether excluded items are recurring in the short-term and find that special items are used as a form of inter-period transfer device, meaning that expenses excluded in one quarter result in an increase in earnings the following quarter. Cready et al. (2012) extend the time horizon in Burgstahler et al.'s (2002) analysis and find that negative special items are associated with an earnings increase over the next four years of 130 % of the size of the special item. This result is also valid for operating cash flows. Their results point toward the fact that negative special items, especially restructuring charges, are (in addition to being used as an inter-period transfer device) indicative of real future improvements. Cready et al. (2012) draw this conclusion based on the fact that pure reversal of the special items can only reach the same size as the special item, which would mean a 100% reversal.

The association between special items and future profit margins have been found to differ between high and low profitability firms. In high profitability firms, Fairfield et al. (2009) find that negative special items are indicative of lower future profit margins while they find no correlation in low profitability firms. These results contradicts the results of Cready et al. (2012), as they find that negative special items are indicative of future firm performance improvements while the results of Fairfield et al. (2009) points towards reduced future firm performance for high profitability firms.

There are, of course, a number of differences between the methodologies of the studies which could affect these contradictory results. First, the time period of the studies differ, with Fairfield et al. (2009) studying an earlier sample (1989-1999) and Cready et al. (2012) studying a more recent sample (2002-2009). One could theorise that the use of different time periods could effect the implications of exclusions implications for future firm performance, especially since the use of pro forma earnings has changed over time. Second, the focuses of the studies differ. Fairfield et al. (2009) use profit margins as the dependent variable where Cready et al.'s (2012) use changes in earnings and operating cash flows. Here, one could assume that changes in earnings would show a greater spread in values than what we would expect from profit margins, potentially contributing to the non-significant results Fairfield et al. (2009) for their full sample tests. However, the fact that their results indicate that negative special items lead to future poorer firm performance cannot be explained by this logic, and the discrepancy in the results remain.

Moving on to total exclusions (both special items and other exclusions), Doyle et al. (2003) find that other exclusions have significant negative impacts on future cash flows for the following three years. Special items are found to be correlated with smaller future increases of free cash flows, while no significant relationship was found between special items and future operating cash flows.

These results are somewhat misaligned with that of Cready et al. (2012) as Doyle et al. (2003) find no significant relationship between special items and future operating cash flows. However, there are a number of differences between the two studies that should be noted. First, Doyle et al. (2003) study all excluded items while Cready et al. (2012) only focus on negative special items. Second, they examine different time periods, with Doyle et al.'s (2003) sample stretching from 1988 to 1999 and Cready et al.'s (2012) sample being more recent (2002-2009). Third, the setup of their model differs. Doyle et al. (2003) include an accrual control variable aiming to control for the

reversal of the difference between earnings numbers and cash flows due to accrual accounting. This is not included in Cready et al. (2012) as they specifically want to test whether special items are used as an inter period transfer device. Fourth, the two papers approach tax in different manners. Doyle et al. (2003) applies the statutory tax rate to special items while Cready et al. (2012) runs both pre and post tax tests, finding that using the statutory tax rate introduces bias in terms of overstating the tax rate for negative special items. Cready et al.'s argument is in line with the findings of Beaver et al. (2006), who find that the effective tax rate for negative special items is between 3 and 14%.

Findings within this focus area of study, while mixed, show support for the notion that excluded items are in fact recurring in nature. However, the details of how these items affect future firm performance is still an open-ended question as results from the studies that have been conducted up to now differ. In addition, the fact that previous studies find different implications for special items and other excluded items on future firm performance highlight the importance of studying the different impact of the different types of exclusions.

2.3 Focus Area 3: Motivations for Companies to Report Pro Forma Earnings

Another identified underlying theme within pro forma literature includes motivations for reporting pro forma earnings. While a supporter of pro forma earnings might argue that it better reflects core earnings of a company and therefore is a better representation of firm performance, academic literature has found evidence that point towards alternative explanations.

Firms have been shown to boost profits by emphasising the more favourable earnings figure (Bowen et al. 2005). Pro forma earnings have also been shown to be used as a tool for earnings smoothing and to meet or beat earnings benchmarks such as analysts' forecasts, one-year-ago

same-quarter earnings, and zero earnings (e.g. McVay 2006; Fan et al. 2010; Das et al. 2009). Comparing pro forma and GAAP earnings, the former meet or beat analyst forecasts 80% of the time compared to the latter where this is true only 39% of the time (Bhattacharya et al. 2003). Managers use pro forma earnings as a tool for classification shifting more frequently in the fourth quarter of the fiscal year and when other means of earnings manipulation such as accruals and cash flow manipulation is not as an available option to companies (Doyle et al. 2013; Fan et al. 2010). Special items are used to meet earnings benchmarks more frequently when analyst coverage is weaker (Anilowski Cain et al. 2013).

These findings show strong support for pro forma earnings being used as a tool for meeting or beating analyst performance. Findings are thus in line with the criticism raised against pro forma earnings, that they are used as a tool to manipulate earnings in order to deliver on analyst expectations rather than to provide a more informative view on firm performance.

2.4 Focus Area 4: Are Effects of Exclusions Incorporated into Stock Prices?

A fourth identified focus area in the pro forma literature investigates pro forma earnings in relation to investor behaviour and investment strategies. Early research in this field notes that the earnings response coefficients on stock prices are smaller when earnings are accompanied with large non-recurring charges, and gets even smaller when a company continues to report additional non-recurring charges (Elliott and Hanna 1994). These results are consistent with investors losing confidence in what parts of earnings are permanent vs. transitory in nature as so called non-recurring items are reported on a recurring basis. More recent research has confirmed these findings in that positive earnings surprises that are reported together with exclusions from GAAP earnings are discounted by investors (Doyle et al. 2013). A possible explanation is that investors

perceive exclusions as attempts of companies to manage earnings through earnings reversals (Das et al. 2009).

On a more general note, pro forma earnings have been found to be the primary determinant of stock prices as opposed to GAAP earnings, indicating that market participants still believe pro forma earnings to be more representative of core earnings (Bradshaw and Sloan 2002; Bhattacharya et al. 2003; Lougee and Marquardt 2004). It implies that investors on average believe excluded items to be non-recurring, something that a number of studies have found to be false (see Focus Area 2 above). With excluded items having been shown to have real implications on future firm performance but investors mainly focusing on earnings measures that disregard such excluded items, a trading strategy based on excluded items can yield positive abnormal returns (Burgstahler et al. 2002; Doyle et al. 2003).

3. HYPOTHESIS DEVELOPMENT

Out of the four main research areas identified within the field of pro forma earnings, this thesis focuses on the second area; whether excluded items are recurring or non-recurring in nature. The fact that results of studies investigating this question point in different directions makes it an interesting topic of study. It opens up for the possibility that additional factors, currently unexplored by academia, could shed more light on the nature of these excluded items in terms of future implications for firm performance.

One aspect identified as currently unpursued is the possibility that excluded items have different implications for a firm's future performance based on different macroeconomic environments. This is an interesting dimension to consider as studies have shown that the value relevance of accounting information differs in different macroeconomic environments. For example, in a review of the value relevance of several accounting ratios, Kane (1997) finds that a number of ratios are only significantly associated with stock returns during economic recession. In addition he finds that, for some ratios, the direction of association between the ratio and stock prices varies systematically across the business cycle. He thus concludes that the accounting information studied *appear to be acutely sensitive to recession-associated valuation events* (Kane 1997, p. 204).

Even more relevant to our study, GAAP earnings specifically has been shown to be more value relevant during times of economic expansion than during economic recession (e.g. Zhou 2012; Davis-Friday and Gordon 2005; Graham et al. 2000). These findings are in line with those of Barth et al. (1998) who showed that the explanatory power of net income on stock prices decreases as financial health decreases; more firms are by definition facing declining financial health in a financial crisis. Such differences in inherent information of GAAP earnings based on the economic

environment further seeds our interest into investigating whether such differences also exist for the difference between GAAP earnings and the alternative earnings measure pro forma earnings.

As such, the research question for this paper is quite straightforward. We ask whether items excluded from pro forma earnings have different implications for a firm's future performance during different macroeconomic environments.

To answer this question we divide total exclusions into four different types of exclusions. We first divide total excluded items into the two subcategories special items and other exclusions. We make this division based on the fact that previous research has identified different implications for the two types of exclusions, making it more informative to analyse the effect of the two types separately rather than on an aggregate level (Doyle et al. 2003).

Second, we divide these two subcategories special items and other exclusions into expenses and gains. We call expenses income increasing exclusions, as excluding them from pro forma earnings makes such earnings relatively higher compared to GAAP earnings. Gains are equivalently labelled income decreasing exclusions as excluding them from pro forma earnings makes this alternative earnings measure relatively lower compared to GAAP earnings. Dividing exclusions into income increasing and income decreasing subsamples is an interesting aspect to consider as, while there exist studies that focus on income increasing exclusions (e.g. Cready et al. 2012; Fan et al. 2010), the implications of income decreasing exclusions specifically have received less focus, with income decreasing other exclusions up to now unstudied.

3.1 Test 1: All Companies

For the first test we conduct, we test the future implications of the four different types of excluded items on future firm performance in different macroeconomic environments for the complete sample. As a proxy for firm performance, we choose to focus on future operating cash flows and when considering different macroeconomic environments we focus on the two scenarios crisis and non-crisis; before and during the financial crisis (rationales behind these choices are given below when discussing methodology in Section 4). The expected implications on future cash flows differ for the four different types of exclusions in the two scenarios considered.

Starting with income increasing special items, we expect their future implications to be impacted by the fact that pro forma earnings has been shown to be used as a mean to manage earnings (e.g. McVay 2006; Fan et al. 2010). Tilden and Janes (2012) analyse accruals as a proxy for earnings management, and find that financial statement manipulation is more likely during recessionary times than during times of booming markets. As Doyle et al. (2013) has shown that earnings management using the pro forma earnings measure is a complement to accruals earnings management, we hypothesise that the conclusions drawn by Tilden and Janes (2012) about accruals manipulation is also true for pro forma earnings. This implies that we would expect more (less) recurring income increasing special items to be misclassified as excluded in times of economic recession (expansion), which would lead to more (less) negative future cash flows.

On the other hand, the findings of Cready et al. (2012) suggest that income increasing special items lead to future cash inflows, not outflows, mainly driven by the effects of restructuring charges. If their results are prevalent, the focus for evaluating expected outcome shifts to consider the effectiveness of restructuring programmes implemented during a crisis versus a non-crisis scenario. We see two potential outcomes worthy of consideration for the purpose of this study.

Either, restructuring programmes are more effective when made during a crisis scenario as firms are under more pressure to make real performance improvements – in which case we would expect higher future cash flows in a crisis scenario compared to when restructuring programmes are implemented in a non-crisis scenario. The opposite potential outcome is also plausible, that restructuring charges are more effective during a non-crisis scenario, as companies would then have time for proper implementation and are not rushed and restricted by the financial pressure imposed by a crisis scenario.

As such, the case for income increasing special items expected implications on future cash flows is not clear-cut. For our first hypothesis, we therefore only expect results to differ between the crisis and non-crisis scenario but make no assumptions as to how they will differ:

H1: Income increasing special items have different implications for a firm's future cash flows before and during the financial crisis.

Moving on to income decreasing special items, these are mainly made up of gains from the sales of assets and subsidiaries. We thus expect the implications of such excluded items to be dependent on the cash flow generating abilities of the divested asset. In times of economic expansion, we expect the average asset sold to be profitable and able to generate future operating cash inflows. Companies are then selling off functioning parts of their business which implicates lower future operating cash flows, as companies have sold off a cash flow generating entity. In the crisis scenario however, with average poorer firm performance assets and subsidiaries sold off are expected to have on average produced lower cash flows for the firm before being divested compared to the non-crisis scenario. We therefore expect lower or insignificant correlation between income decreasing special items and future cash flows in the crisis scenario. Our second hypothesis is thus:

H2: Income decreasing special items have more (less) negative implications for a firm's future cash flows before (during) the financial crisis.

In terms of income increasing other exclusions, previous research has done a quite limited review of its constituents. In order to deduct expected implications for future cash flows, we review 50 randomly selected income increasing other exclusions from our sample.¹ Our observations are in line with those made by Doyle et al. (2003), who found examples of other exclusions such as operating losses from stores scheduled to be closed in the future, in process R&D charges, legal settlement costs and stock-based compensation expenses. We identify stock-based compensation expenses as the most common exclusion (e.g. Google, second quarter 2012). In addition to items identified by Doyle et al. (2003), we also identify the exclusion of change in deferred net revenue (EA Games, third quarter 2011) and non-operating pension costs (GE, second quarter 2012). With the content of other exclusions seemingly equivalent to those studied by Doyle et al. (2003) we expect similar results, i.e. a clear correlation with negative future cash flows. We expect the only difference between the crisis and the non-crisis scenario for income increasing other exclusions to be larger correlation with negative future cash flows during a crisis scenario. We base this expectation on the increased incentive to manipulate earnings during such macroeconomic environments (Tilden and Janes 2012). Our third hypothesis is thus:

H3: Income increasing other exclusions have more (less) negative implications for a firm's future cash flows during (before) the financial crisis.

¹ The review was conducted through a desktop review of earnings releases to identify the specific line item classified as an income increasing other exclusion. The random selection was thus restricted by public access to quarterly earnings releases, why a random selection was made for observations between Q1 2009 and Q2 2012 only.

For the fourth and final type of exclusion, income decreasing other exclusions, we performed a similar desktop review as was performed for income increasing other exclusions. Through this review, we identified non-cash tax gains other than deferred taxes such as reversal of separation related tax receivable write-down (Exelis, third quarter 2012), change in deferred revenue (Zynga, second quarter 2012) and supplier quality recovery (Whirlpool, fourth quarter 2011). Same as for income increasing other exclusions, the review concluded that the most common other excluded gain seems to be related to revaluation of stock-based compensation packages (e.g. Hackett, fourth quarter 2010). As stock prices decline, the stock compensation packages are revalued at a lower cost for the company, representing a non-cash fair value gain. We hypothesise that such stock compensation packages lead to improved future operating cash flows in a crisis compared to a non-crisis scenario. This expectation is based on the fact that packages, if vested within the timeframe of which the crisis still affects stock prices negatively, will be less costly for companies. In case the vested options are converted, the cash outflow will be relatively low due to the low price of stocks in the market. In case vested options are not converted, there is no cash outflow at all. For both cases the result is a decrease in operating cash outflow. This leads us to our fourth hypothesis:

H4: Income decreasing other exclusions have more (less) positive implications for a firm's future cash flows during (before) the financial crisis.

3.2 Test 2: Companies with High and Low Core Profitability Ranking

In our second test, we analyse the implications of income increasing and income decreasing special items and other exclusions during the crisis and non-crisis time periods depending on whether a firm has low or high core profitability.² Profitability is an interesting aspect to consider as firms with low core profitability can be expected to be under more stress in times of crisis and Fairfield

² For a definition of what is implied by the term 'core profitability' when used in this paper, see section 4.2 Tests of Hypotheses.

et al. (2009) find that the association between past special items and future profit margins differs markedly between firms with low and high core profitability. This opens up for the possibility that the future implications of excluded items will differ for these two types of firms based on differing macroeconomic environments.

Applying a theoretical model, Strobl (2009) has shown that managers of low-earnings firms have stronger incentives to report high earnings when the stock market is booming. While Fairfield et al. (2009) found no significant relationship between exclusions made by low core profitability companies, we thus expect a significant negative result for income increasing exclusions (both special items and other exclusions) made by low-profitability firms in the non-crisis period based on the assumption that their incentives are then higher to manage earnings

For income decreasing special items, with such items mainly consisting of gains from divested assets, we expect assets and subsidiaries in firms with low profitability to on average produce lower (if any) cash flows, implying that the loss of future cash flows when such assets are sold off during the non-crisis scenario is insignificant. In the crisis scenario, such assets can be expected to be performing even worse on an average level for a low profitability firm. This leads us to expect a significant association between income decreasing special items made in the crisis scenario and positive future cash flows, as we expect firms to sell off loss-making assets and subsidiaries.

As we see no reason to adjust expectations for income decreasing other exclusions based on firm profitability, income decreasing other exclusions are expected to follow the results for all firms from Test 1. That is that we expect such exclusions to be connected to more positive future cash flows when made in the crisis scenario as costs related to stock based compensation packages lowers also when made by low profitability firms.

With different possible outcomes for the different types of excluded items, we formulate our fifth hypothesis as an open-ended proposition:

H5: Excluded items have different implications for a firm's future cash flows before and during the financial crisis for a firm with low core profitability.

This hypothesis will be tested for each type of exclusion individually. Expectations for the individual types of exclusions are summarised in the table below.

Table 1: Overview of Expected Results for Individual Exclusions to be Tested for Hypothesis Five

Exclusion Type	Expectation
Income increasing special items	Income increasing special items have more (less) negative implications for a firm's future cash flows before (during) the financial crisis for a firm with low core profitability.
Income decreasing special items	Income decreasing special items have more (less) positive implications for a firm's future cash flows during (before) the financial crisis for a firm with low core profitability.
Income increasing other exclusions	Income increasing other exclusions have more (less) negative implications for a firm's future cash flows before (during) the financial crisis for a firm with low core profitability.
Income decreasing other exclusions	Income decreasing other exclusions have more (less) positive implications for a firm's future cash flows during (before) the financial crisis for a firm with low core profitability.

Moving on to companies with high profitability, we start by analysing expectations for income increasing special items. We expect more recurring expenses misclassified as income increasing special items based on the fact that Fairfield et al. (2009) found such practice to be more common among high profitability firms. Combined with the proposition for Tilden and Janes (2012) we expect most of such misclassifications to occur during the crisis scenario.

For income decreasing special items, we reason that assets of high profitability companies can be expected to on average generate more cash flows than assets of low profitability companies. Therefore, we expect high profitability companies to lose even more future cash flows when they sell off assets during the non-crisis scenario than what we expect in Test 1, where all companies are included in estimating coefficients.

As income increasing other exclusions have previously not been studied separately, we have no reason to expect other results than for income increasing special items. That is, an association with larger negative future cash flows during the crisis period based on the combined results of Fairfield et al. (2009) and Tilden and Janes (2012).

Finally, for income decreasing other exclusions we expect similar results as expected for income decreasing other exclusions from Test 1. That is that such exclusions are associated with more positive future cash flows when made in the crisis scenario as costs related to stock based compensation packages lowers.

Similarly as for low profitability companies, we expect a mix of possible outcomes for high profitability companies why our sixth hypothesis is also formulated as an open-ended hypothesis:

H6: Excluded items have different implications for a firm's future cash flows before and during the financial crisis for a firm with high core profitability.

As hypothesis five, this hypothesis will also be tested for each type of exclusion individually. Expectations for the individual types of exclusions are summarised in the table below:

Table 2: Overview of Expected Results for Individual Exclusions to be Tested for Hypothesis Six

Exclusion Type	Expectation
Income increasing special items	Income increasing special items have more (less) negative implications for a firm's future cash flows during (before) the financial crisis for a firm with high core profitability.
Income decreasing special items	Income decreasing special items have more (less) negative implications for a firm's future cash flows before (during) the financial crisis for a firm with high core profitability.
Income increasing other exclusions	Income increasing other exclusions have more (less) negative implications for a firm's future cash flows during (before) the financial crisis for a firm with high core profitability.
Income decreasing other exclusions	Income decreasing other exclusions have more (less) positive implications for a firm's future cash flows during (before) the financial crisis for a firm with high core profitability.

Aspects Excluded from the Study

Having chosen these six hypotheses to answer our main research question, we acknowledge that there are additional aspects regarding excluded items' implications for future cash flows in the crisis and non-crisis scenario we have chosen to exclude from the scope of this paper. The main aspects considered but excluded are an industry analysis and a more detailed analysis of special items.

An industry analysis would include looking at whether there are any industry specific differences in how excluded items affect future cash flows during the crisis versus non-crisis scenarios. We choose not to pursue such an analysis based on two main reasons. First, Bhattacharya et al. (2003) perform an extensive industry analysis on the differing use of pro forma earnings and find limited results. Second, given the limited time period chosen for this study, dividing the sample into

different industries would challenge the significance of any results as the number of observations for some industries would be too low to allow for statistical tests.

Another possible aspect would be to further investigate the different types of special items that we are able to extract from Compustat, namely goodwill write-down, asset impairment and restructuring charges. These were found by Cready et al. (2012) to have different implications why such an analysis would be interesting to investigate whether there is any difference in the crisis versus non-crisis scenario. However, this test faces the same restrictions as the industry division, that is that when segmenting our sample into such detail we lack sufficient observations to perform tests to draw any valid conclusions. For this reason, this aspect is also excluded from the study.

4. METHODOLOGY

In this section we describe the methodology used in testing the hypotheses stated in Section 3. We start by defining variables used in the regressions. Then, we present the regression model and the tests we conduct as well as define the time periods for the two scenarios crisis and non-crisis. Lastly, we describe the sample, including a technical review of steps taken to arrive at the final sample used in regressions and descriptive statistics.

4.1 Variable Definition

Below, the variables used in our regressions are defined. These are presented in three sections; the first presenting dependent variables, the second presenting the independent variables used in the tests (i.e. the variables related to excluded items), and the third presenting the set of control variables included in all regressions. In the end of this section, you find an overview of all variables.

One action taken and applied on all absolute variables to avoid having results of regressions dominated by large observations is that we scale all absolute variables by total assets (Compustat data item ATQ).³ We choose to scale by total assets as we consider it a relatively stable measure of size as opposed to e.g. sales or stock price which could be expected to fluctuate considerably in a crisis scenario.

Dependent Variables

To answer our research question we choose future cash flows as the dependent variable and a proxy for future firm performance. In making this choice, we deem cash flows a more appropriate proxy than alternative measures for firm performance based on the setup of the study. With one

³ This applies to variables OFC_SUM4_{i,t}, OFC_SUM8_{i,t}, OFC_SUM12_{i,t}, INCINC_SPI_{i,t}, INCDEC_SPI_{i,t}, INCINC_OTHEXCL_{i,t}, INCDEC_OTHEXCL_{i,t}, PRO_FORMA_{i,t}, ACCRUALS_{i,t}, ACCRUALS_L3_{i,t}.

period studied being a crisis scenario, we would expect the stock prices to vary greatly not only due to the performance of a firm but also due to e.g. investor sentiment, the notion that investors are influenced by beliefs about future performance of a firm which are not based on the fundamental risk of the underlying asset (De Long et al. 1990). Therefore, we consider cash flows to be a less noisy proxy for firm performance than stock prices. Cash flows are also considered preferable to alternative proxies such as profit margins and change in earnings as cash flow measures are less susceptible to manipulations such as earnings shifting through accruals management (Doyle et al. 2003).

We specifically use operating cash flows as the dependent cash flow variable. We choose operating cash flows over other types of cash flow measures as it is a measure of the operating performance of the company. This makes it a more relevant cash flow measure for the purpose of this study than e.g. free cash flow as it does not include direct investment cash flows which we expect to differ significantly in the two scenarios of our study.⁴

Quarterly operating cash flows are calculated based on yearly, cumulative operating cash flows (OANCFY) and summed over the four, $OFC_SUM4_{i,t}$, eight, $OFC_SUM8_{i,t}$, and twelve, $OFC_SUM12_{i,t}$, quarters following quarter t for firm i . The future cash flows are summed over increasingly longer time periods as long-term regressions allow for interpretations regarding the continuing effects of excluded items on future cash flows. The availability of data restricts the length of the future cash flows to be summed over more than three years, why that is the longest time period applied.

⁴ We expect investment cash flows to be greater in the non-crisis scenario, leading to relatively smaller free cash flows. As these investments are not necessarily an effect of excluded items they could introduce a bias in that the estimated coefficients for the non-crisis period would indicate a smaller impact on future free cash flows than if applying operating cash flows.

While it can be argued that investments are necessary to create operating cash flows and therefore should be considered, big investments would not break even within the three-year window chosen for this study. Operating cash flows still captures the success of investments made in terms of ability to create future cash flows, thereby serving as a better proxy for firm performance for the purpose of this study.

Independent Variables

The following steps are taken to arrive at final values for the four different types of excluded items used in regressions. Total exclusions are first divided into the two main categories of special items and other excluded items.

Starting with special items (SPIQ), we replace missing values with the value '0' assuming that missing values means no special items reported. We make this adjustment as otherwise such observations would not be taken into account by the regression model, reducing the number of data points and potentially losing information to estimate coefficients for other exclusions.⁵

As special items are only available pre-tax in Compustat (while pro forma earnings are only available post-tax in the I/B/E/S Detail History Actuals database) we calculate post-tax special items in the following way. For the three sub-categories of special items restructuring charges, goodwill impairments and asset write downs, both post- and pre-tax values are available. Aware of the fact that the statutory tax rate has been questioned for special items specifically (Cready et al. 2012; Beaver et al. 2007), we make use of the actual post-tax values for the separately reported constituents of special items when available. We thus deduct pre-tax values of restructuring charges (RCPQ), goodwill impairments (GDWLIPQ) and asset write-downs (WDPQ) from the special items pre-tax value to get a value of other special items. We then apply the statutory tax rate⁶ on other special items only to estimate their after-tax value. We finally add the actual post-tax values of restructuring charges (RCAQ), goodwill impairments (GDWLIAQ) and asset write downs (WDAQ) to the estimated post-tax value of other special items to arrive at special items after tax.

⁵ Losing information to estimate coefficients for other exclusions would happen in the case where pro forma earnings are not equal to GAAP earnings and special items have a missing value.

⁶ The statutory tax applied rate for the full 2002 to 2012 period is the average period rate of 39.2% (ranging between 39.1% and 39.3%) (OECD 2014). This tax rate includes basic combined central and sub-central corporate income tax rates.

Other exclusions are calculated as the residual between pro forma earnings and GAAP earnings after deducting special items (i.e. *Other exclusions = Pro forma earnings - GAAP earnings - special items*).⁷

In our model, excluded expenses take on positive values as they are added back to GAAP earnings to arrive at pro forma earnings thereby increasing pro forma earnings compared to GAAP earnings. As such, income increasing special items, $INCINC_SPI_{i,t}$, and income increasing other exclusions, $INCINC_OTHEXCL_{i,t}$, are defined as observations that take on positive values. Similarly, excluded gains have negative values in our model as they are deducted from GAAP earnings to arrive at pro forma earnings. Therefore, income decreasing special items, $INCDEC_SPI_{i,t}$, and income decreasing other excluded items, $INCDEC_OTHEXCL_{i,t}$, are defined as observations that take on negative values.

Control Variables

For all tests, we apply a common set of control variables in order to reduce the risk of the coefficients for the excluded item variables being affected by something other than the excluded item in question. The coefficients of these control variables and their significance are not presented in the results section of this paper, where only data directly related to the hypotheses are presented to ease readability. However, full results of regressions can be found in Appendix A.

As we want to investigate the effect of excluded items on future cash flows in addition to the information incorporated in the pro forma earnings measure we include pro forma earnings,

⁷ GAAP earnings are calculated multiplying basic earnings per share before extraordinary items and discontinued operations (EPSPXQ) with number of common share outstanding (CSHOQ) and I/B/E/S actual earnings per share are used as a proxy for pro forma earnings. The rationale behind calculating GAAP earnings from earnings per share rather than using the absolute value also available from Compustat (IBQ) is that the pro forma earnings proxy applied is only available on an earnings per share basis. Calculating GAAP earnings from an earnings per share basis thus results in consistent rounding errors when multiplying both earning measures with the number of shares outstanding. Pro forma earnings are defined more in detail in the Control Variables section below.

PRO_FORMA_{i,t}, as an independent variable. Following previous research we use the I/B/E/S actual earnings consensus analyst figure of pro forma earnings as a proxy for company reported pro forma earnings.⁸ As I/B/E/S only reports actual earning per share (EPS) we multiply it with number of shares outstanding.⁹ I/B/E/S does not provide data on number of shares outstanding, and therefore we use the number of shares outstanding for the respective quarter as reported by Compustat (CSHOQ). With Compustat providing number of shares outstanding on a historic, undiluted basis we take the following two steps to ensure that the I/B/E/S actual EPS values are presented on the same basis. First, we retrieve actual EPS values from the I/B/E/S Detail History Actuals database, Unadjusted dataset as it provides data that is not restated for stock splits but as reported on a historic basis. Second, in the case where I/B/E/S actual EPS is reported on a diluted basis we multiply stated actual EPS with the dilution factor to reverse the dilution effect and transform the value to an undiluted equivalent. Any company where multiple dilution factors are given are dropped in order to minimise data management error. This enables us to calculate pro forma earnings values by multiplying actual I/B/E/S EPS with the number of shares outstanding for that historical point in time as reported by Compustat.

The second and third control variables, growth and accruals, are introduced following Doyle et al. (2003). As growing firms need to make additional investments (e.g. in working capital) in addition to pure replacement, growth has a different impact on the cash flow measures than for companies in a steady state. Growth, GROWTH_{i,t}, is defined as the percentage change in quarterly sales compared to the same quarter last year, calculated using Compustat data item SALEQ.

⁸ There are two other databases providing similar earnings numbers, First Call and Zacks. These were not used due to limitation in database access. Implications of using analyst consensus figures as a proxy for company reporting practice is discussed in Section 6.

⁹ This adjustment is needed as we use a different denominator for scaling (total assets).

The control variable accruals, $ACCRUALS_{i,t}$, is aimed to control for the reversal effect of accruals. Accruals are defined as GAAP earnings (IBQ) less operating cash flow (quarterly cash flows backed out from Compustat item OANCFY).

We also introduce an additional accruals control variable following Fan et al. (2010), $ACCRUALS_L3_{i,t}$. It measures the accruals three quarters prior to the quarter when an exclusion is made. This variable aims to capture any seasonal pattern for building up accruals in cyclical businesses.

Following Doyle et al. (2013) we further introduce size and book-to-market ratio as control variables. Size, $SIZE_{i,t}$, is defined as the natural logarithm of market capitalisation. Market capitalisation is calculated as number of shares outstanding (CSHQ) times the price per share (PRCCQ). As the function of natural logarithm is - in statistical terms - not well behaved, we replace all negative values of $\ln(\text{size})$ with zero.¹⁰ We use stock price as the preferred measure of size rather than e.g. total assets or sales as the stock price of a company is considered associated with future cash flows (e.g. Koller et al. 2010; Penman 2009). Book-to-Market, $BTM_{i,t}$, is defined as the book value of equity (SEQQ) divided by the market value of equity.

Following Anilowski Cain et al. (2013) we include asset turnover, $ATO_{i,t}$, calculated as quarterly sales (SALEQ) divided by the quarter's opening balance total assets (ATQ).

Finally, following McVay (2006) we also include momentum, $MOMENT_{i,t}$. It is a dummy variable, taking the value of 1 in case that the last two quarter pro forma earnings were positive and 0

¹⁰ This prevents the values for firms with market capitalisation below one million USD (which have a value below one in our dataset) to take on extreme negative values.

otherwise. We apply pro forma earnings rather than GAAP earnings to indicate momentum in earnings based on the findings that pro forma earnings are the primary determinant of stock prices (Bradshaw and Sloan 2002; Bhattacharya et al. 2003; Loungee and Marquardt 2004) and can therefore potentially capture additional benefits from investors perceiving that a firm has positive earnings momentum, such as availability of funding capital.

In addition to the control variables defined above, in designing our model we also considered adding a dummy variable controlling for any effects specifically related to the fourth fiscal quarter. The reasoning behind considering such a control variable was that previous research has identified changes in reporting fourth quarter exclusions (Fan et al. 2010). However, this control variable was insignificant for all tests why it was dropped. The results of the regressions are robust for dropping this control variable.

Another aspect considered but not included as a separate control variable is analyst following. Anilowski Cain et al. (2013) find that the practice of using special items to misclassify recurring items in order to meet earnings benchmarks is a more common practice when analyst coverage is weaker. Not controlling for analyst following could mean that any effects of analyst following on excluded items in relation to future firm performance are included in our results and are not singled out as a separate factor of influence. However, we expect analyst following to correlate closely with size in terms of market capitalization, meaning that our control variable size should also catch most such effects.

An overview of the variables used in regressions can be found in Table 3.

Table 3: Variable Definitions with Corresponding Compustat Data Item Codes

Label	Definition
<i>Dependent Variables</i>	
OCF_SUM4 _{i,t}	= Future operating cash flows summed over the four quarters. Backed out from Compustat data item OANCFY.
OCF_SUM8 _{i,t}	= Future operating cash flows summed over the eight quarters. Backed out from OANCFY.
OCF_SUM12 _{i,t}	= Future operating cash flows summed over the twelve quarters. Backed out from OANCFY.
<i>Independent Variables</i>	
INCINC_SPI _{i,t}	= Income increasing special items, i.e. special item expenses. Takes on positive values in our model as they are added back to GAAP earnings when calculating pro forma earnings. Calculated as $SPIQ > 0$.
INCDEC_SPI _{i,t}	= Income decreasing special items, i.e. special item gains. Takes on negative values in our model as they are deducted from GAAP earnings when calculating pro forma earnings. Calculated as $SPIQ < 0$.
INCINC_OTHEXCL _{i,t}	= Income increasing other exclusions, i.e. other excluded expenses. Takes on positive values in our model as they are added back to GAAP earnings when calculating pro forma earnings. Calculated as $(PRO_FORMA_{i,t} - GAAP\ earnings - SPIQ) > 0$, with GAAP earnings calculated as <i>basic earnings per share before extraordinary items and discontinued operations (EPSPXQ) * number of common shares outstanding (CSHOQ)</i> .
INCDEC_OTHEXCL _{i,t}	= Income decreasing other exclusions, i.e. other excluded gains. Takes on negative values in our model as they are deducted from GAAP earnings when calculating pro forma earnings. Calculated as $(PRO_FORMA_{i,t} - GAAP\ earnings - SPIQ) < 0$, with GAAP earnings calculated as <i>basic earnings per share before extraordinary items and discontinued operations (EPSPXQ) * number of common shares outstanding (CSHOQ)</i> .
<i>Control Variables</i>	
PRO_FORMA _{i,t}	= Pro forma earnings, i.e. <i>GAAP earnings - total excluded items</i> . Calculated as <i>undiluted I/B/E/S actual EPS * number of shares outstanding (CSHOQ)</i> .
GROWTH _{i,t}	= Sales growth, % change in quarterly sales (SALEQ) compared to the equivalent last year fiscal quarter.
ACCRUALS _{i,t}	= Accruals, calculated as <i>GAAP earnings - operating cash flows</i> . GAAP earnings calculated as <i>basic earnings per share before extraordinary items and discontinued operations (EPSPXQ) * number of common shares outstanding (CSHOQ)</i> and operating cash flows backed out from OANCFY.
ACCRUALS_L3 _{i,t}	= Three quarter lagged accruals. Calculated as <i>GAAP earnings - operating cash flows for the quarter three quarters prior to the current quarter</i> . GAAP earnings calculated as <i>basic earnings per share before extraordinary items and discontinued operations (EPSPXQ) * number of common shares outstanding (CSHOQ)</i> and operating cash flows backed out from OANCFY.

Table 3 Continued

Label	Definition
$SIZE_{i,t}$	= The natural logarithm of market capitalisation. Calculated as $\ln(\text{number of shares outstanding (CSHOQ)} * \text{price per share (PRCCQ)})$. Negative values are replaced with 0.
$BTM_{i,t}$	= Book-to-market. Calculated as $\text{book value of equity (SEQQ)} / (\text{number of shares outstanding (CSHOQ)} * \text{price per share (PRCCQ)})$.
$ATO_{i,t}$	= Asset turnover. Calculated as $\text{sales (SALEQ)} / \text{opening balance total assets (ATQ)}$.
$MOMENT_{i,t}$	= Momentum in terms of positive pro forma earnings. Dummy variable, equal to 1 if PRO_FORMA_{t-1} and PRO_FORMA_{t-2} are both positive.

All absolute variables are scaled by total assets.

In models, dependent variables are referenced as 'Future OFC' only, implying that the models are run with future operating cash flows for all three time periods.

i represents the company identifier, t the quarter identifier.

All control variables and their respective coefficients are together labelled $\sum_{j=1}^8 \lambda_j \text{CONTROLS}_{j,i,t}$ in the regression model to ease readability.

4.2 Tests of Hypotheses

To test our six hypotheses we conduct our tests in a two-step approach. First, we estimate the coefficients of excluded items for the two scenarios crisis and non-crisis using linear regressions. Due to the different potential expectations identified for the different variables, we conduct two-tailed tests to cover both positive and negative coefficients. We first apply a linear regression model to estimate coefficients for H1 to H4 and H5 to H6 respectively. Second, we test whether the equivalent coefficients in the two scenarios crisis and non-crisis are significantly different from each other using a two-tailed Z-test.

Estimating Coefficients for Test 1: All Companies

In the first regression, we estimate coefficients for how excluded items (divided into income increasing and income decreasing special items and other exclusions) affect future operating cash flows. The test is designed to estimate coefficients for hypothesis one to four. We run the following linear regression for the two separate time periods defined:

Regression model:

$$\begin{aligned} Future\ OCF_{i,t} = & \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} \\ & + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t} \end{aligned}$$

Where:

$Future\ OCF_{i,t}$ = Future cash flows summed over 4, 8 or 12 quarters for the firm i in quarter t .

γ_0 = The intercept.

$\gamma_x X_{i,t}$ = Coefficient γ for variable X for the firm i in quarter t .

$\sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t}$ = The coefficient λ for control variable j for firm i in quarter t .

$e_{i,t}$ = Residual term for firm i in quarter t .

Estimating Coefficients for Test 2: Companies with High and Low Core Profitability Ranking

To estimate coefficients for hypotheses five and six, we run the same regression model as defined above for subsamples based on pre-exclusions profitability following Fairfield et al. (2009) (referred to as “core” profitability for the remainder of this paper). In order to do so, we first calculate a measure of core profitability and second divide companies into subcategories based on profitability ranking.

To calculate core profitability, we first define profitability as return on net operating assets (RONA), specifically:

$$\frac{Net\ operating\ income}{Net\ operating\ assets} = RONA$$

Net operating income is calculated using the following calculation (Compustat data item codes are given within parentheses):

$$\begin{aligned} & Net\ operating\ income \\ & = Operating\ income\ after\ depreciation\ (OIADPQ) \\ & \quad - Total\ income\ taxes\ (TXTQ) \end{aligned}$$

The capital base net operating assets is calculated as follows:

Net operating assets

$$\begin{aligned} &= \text{Common equity (CEQQ)} + \text{Preferred stock (PSTKQ)} \\ &+ \text{Noncontrolling interests (MIBTQ)} + \text{Long-term debt (DLTTQ)} \\ &+ \text{Debt in current liabilities (CLCQ)} \\ &- \text{Cash and short-term investments (CHEQ)} \end{aligned}$$

Second, we divide the full sample of observations into three subsamples based on core profitability; low, middle and high. To avoid biases such as industry and cyclic influences on core profitability, we control for sector differences and differences over time. Consequently, the data items are first sorted by quarter and by Global Industry Classification Standard (GICS) identifier before being ranked into equally large high, middle and low core profitability groups within each quarter and industry cluster. This leaves us with a ranking that is not dominated by a certain type of companies or high growth periods, but rather based on the profitability for a specific quarter compared to peers.

The division into three core profitability subsamples is a precautionary measure to ensure that the high and low profitability subsample indeed consist of firms with different core profitability. However, the approach applied means that the middle subgroup is more of a grey zone in terms of core profitability. Therefore, we refrain from drawing any conclusions based on regressions run on mid ranked companies and include only results of regressions run on the low and high subsample in the body of this paper. Full results from all three subgroups are disclosed in Appendix A.

Test of Null Hypotheses

After estimating coefficients, we perform a 2-tailed Z-test to check whether each coefficient for one scenario is significantly different from the equivalent coefficient for the other scenario. The test is defined as follows:

$$Z = \frac{\gamma_{crisis} - \gamma_{non-crisis}}{\sqrt{s_{\gamma_{crisis}}^2 + s_{\gamma_{non-crisis}}^2}} \approx N(0,1)$$

Where:

γ_x = The coefficient for a specific independent variable in scenario x .
 $s_{\gamma_x}^2$ = The variance of coefficient γ in scenario x .

The test assumes a normal distribution. This assumption is reasonable and in line with the central limit theorem as our sample is sufficiently large (Newbold et al. 2010).

We reject a null hypothesis when coefficients are significant at the 5% level for all of the three future operating cash flow windows (four, eight and twelve quarters), and additionally report significance when on the 1% level. We evaluate results for each individual type of exclusion in each test. This means that the null hypothesis is rejected or not rejected for income increasing and income decreasing special items and other exclusions separately.

4.3 Defining Time Periods

With the main purpose of this study being to analyse differences in the implications of excluded items for future operating cash flows in different economic environments, defining the time periods to study is a question of utmost importance. Below follows our reasoning in defining the time periods for the two scenarios crisis and non-crisis.

Defining the Crisis Scenario

We choose to analyse one crisis period rather than to conduct a historical analysis covering many crisis periods. One might argue that designing the study to include a number of historical crisis periods would carry some significant upsides such as enabling greater generalisations as any findings could be said to be true (at least historically) across time. However, we find the downsides to conducting such a study stronger than the upsides. The main argument against doing a historical review is that there has been some significant changes in the reporting regulations in the beginning of the 2000's (more details on these changes is described below where we discuss the beginning of the control period). Including data both before and after these accounting changes would introduce error in our time series we would not be able to control for, and only including crises before 2000 would assumedly reduce the relevance of the results as the most recent data would be a decade and a half old. We therefore choose to analyse only one crisis for our crisis scenario.

For the crisis period we choose the recent financial crisis. In addition to occurring post the reporting regulation changes discussed above, there are three additional reasons for this choice. First, it represents the most severe crisis since the Great Depression in the 1930s' (Brunnermeier 2009). Second, the fact that the financial crisis originated in the US but also had a global spread matches our sample of US companies¹¹, as while listed in the US many of them are multinationals with operations outside of the US. Third, it is the most recent crisis and with the identified trend of increasing frequency of reporting pro forma earnings we expect that using a recent crisis will facilitate the statistical analysis as there will be more data points available compared with an earlier crisis.

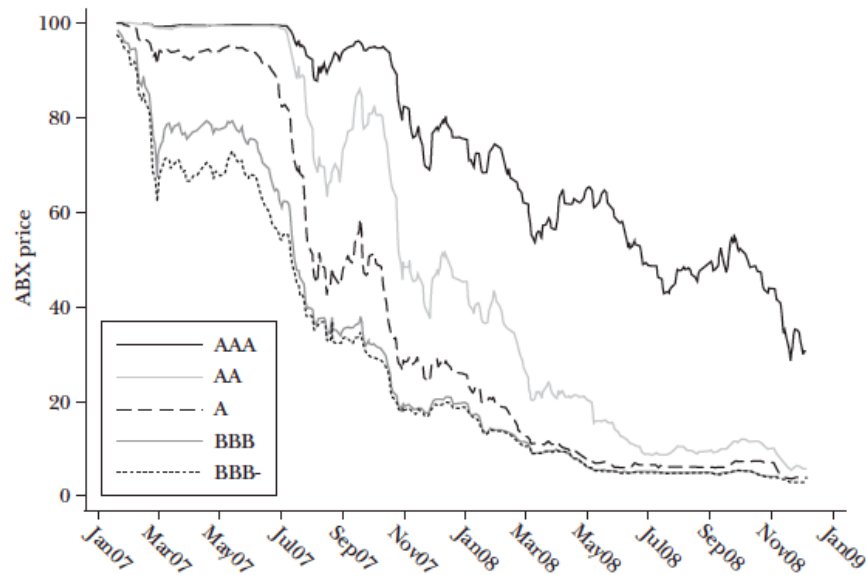
¹¹ We use a sample of listed US companies based of the availability of pro forma earnings data. For more detail, see section 4.4 The Sample.

Following Brunnermeier (2009), when defining the start of the crisis we look at subprime mortgage defaults, the amount of outstanding asset-backed commercial paper and the TED spread. We additionally take US gross domestic product (GDP) data into account to ensure that our defined start is consistent with developments in the overall real economy.

To evaluate subprime mortgage defaults we analyse the Mortgage Credit Default Swaps ABX (asset-backed securities) Indices in Figure 1. Each index is comprised of 20 bonds that are made up of groups of credit default swaps referencing mortgages of a certain rating. The ABX swaps are in many respects like insurances, offering protection in case of default of the underlying asset for the protection buyer in return for regular payments to the protection seller. A decline in the index indicates that investors expect that the subprime mortgage holders are more likely to default on their mortgage – increasing the probability that the protection seller will have to pay the protection buyer for a loss. Similarly, an increase in the index indicates that investors expect that subprime mortgage holders are less likely to default – increasing the probability that the protection seller will continue to receive the regular payments for the lifetime of the swap.

As shown from Figure 1 (indexed to 100 at January 2007), we see that while the value of asset-backed credit default swaps with ratings of A and lower decrease already in Q1 2007, the value of AA and AAA rated asset-backed credit default swaps was affected negatively starting in Q3 2007. This indicates that there were some indications of the coming crisis already in Q1 while the overall effects on the credit default swap market started first in Q3 2007.

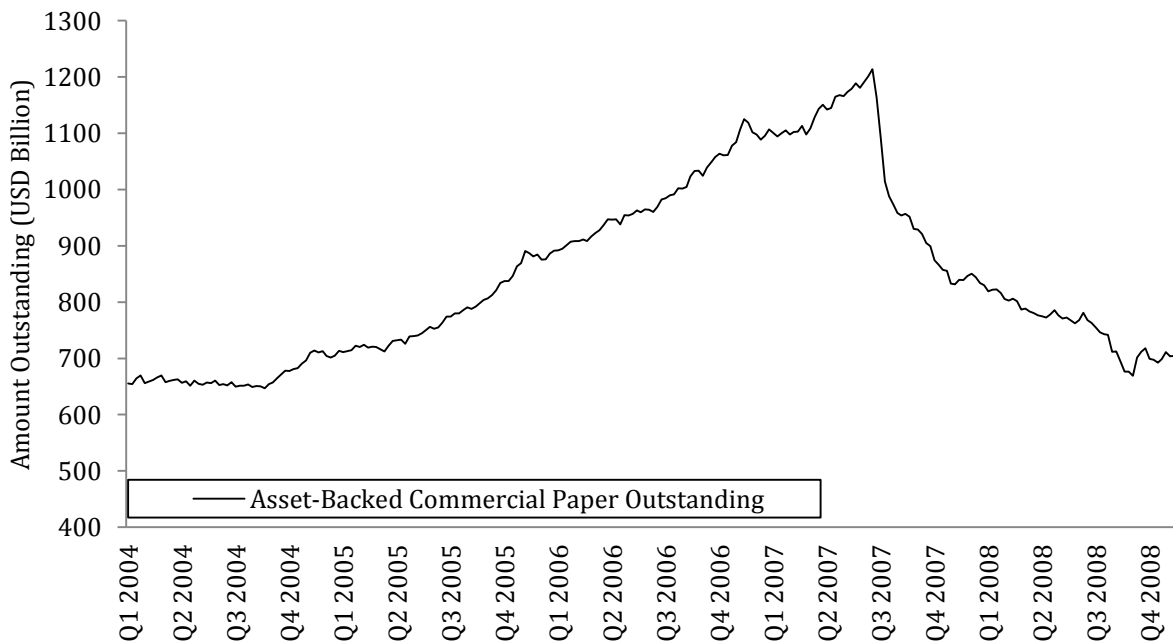
Figure 1: Decline in Mortgage Credit Default Swap ABX Indices



Source: LehmanLive in Brunnermeier 2009, p 83.

Moving on to the market for asset-backed commercial paper, we see that it dropped significantly during the second half of 2007 as evident from Figure 2. This points towards a start of the financial crisis in Q3 2007.

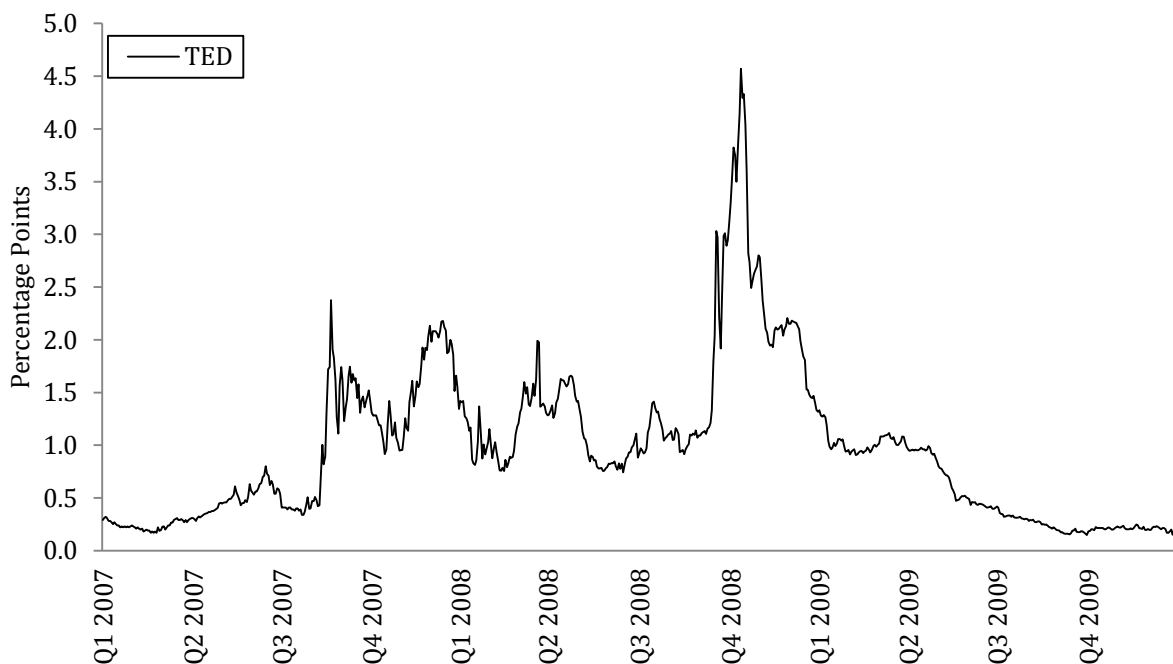
Figure 2: Asset-Backed Commercial Paper Outstanding



Source: Federal Reserve Board 2014.

Finally, we analyse the TED spread for determining the start of the financial crisis. The TED spread shows the difference between the interest rates on short-term interbank and US governmental debt. The three-month LIBOR (London Interbank Offered Rate) is used as interest rate for interbank loans and serves as a proxy for a risky short-term loan. Interest rates on short term US governmental debt is determined using the three-month Treasury bill rate and serves as a proxy for low-risk short-term debt. With the TED spread showing the differences between these two proxies, we get an indication of how short-term financial risk is perceived in the market. As evident from Figure 3, The TED spread increased significantly during Q3 2007 – indicating that it was at this time the financial crisis first hit.

Figure 3: The TED Spread

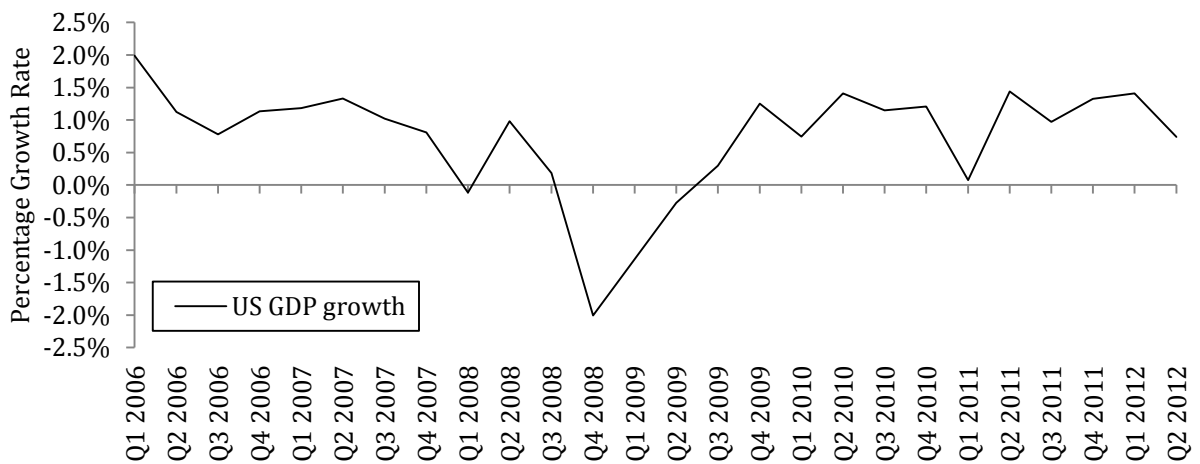


Sources: Datastream 2014; Federal Reserve Board 2014.

In sum, although we note a decline in some of the Mortgage Credit Default Swaps ABX Indices already in Q1 2007, it is clear from the additional two indicators that the main effects from the crisis started first in Q3 2007. This is confirmed when analysing quarterly US GDP developments in

Figure 4 as GDP growth increased slightly Q1 and Q2 2007 and started to decrease first in Q3 2007, supporting the fact that the effects on the real economy first started at that point in time. This starting date is also supported by e.g. Gorton (2010) in a paper prepared for the US Financial Crisis Inquiry Commission. We therefore define the start of the crisis period as Q3 2007.

Figure 4: US GDP Growth Q1 2006 to Q2 2012



Source: Datastream 2014.

If the start of the crisis could be relatively easily identified in the used metrics, the end of the crisis cannot be as clearly identified. With no clear-cut trends available in other metrics, we rely solely on GDP growth to determine the end of the crisis for the purpose of our study. Analysing the GDP growth data, we note that from Q3 2009, GDP growth stays above zero (even if Q1 2011 showed growth at the meagre 0.1%) indicating that the financial crisis was over by Q3 2009. This assessment is shared by e.g. the US Department of Treasury (2012). As such, we define the crisis period for the purpose of this study to consist of the eight quarters between Q3 2007 and Q2 2009.

Defining the Non-Crisis Scenario

Having defined the crisis window, we move on to define the non-crisis window. We start by noting a number of changes in accounting standards in the early 2000's. In June 2001 the Financial

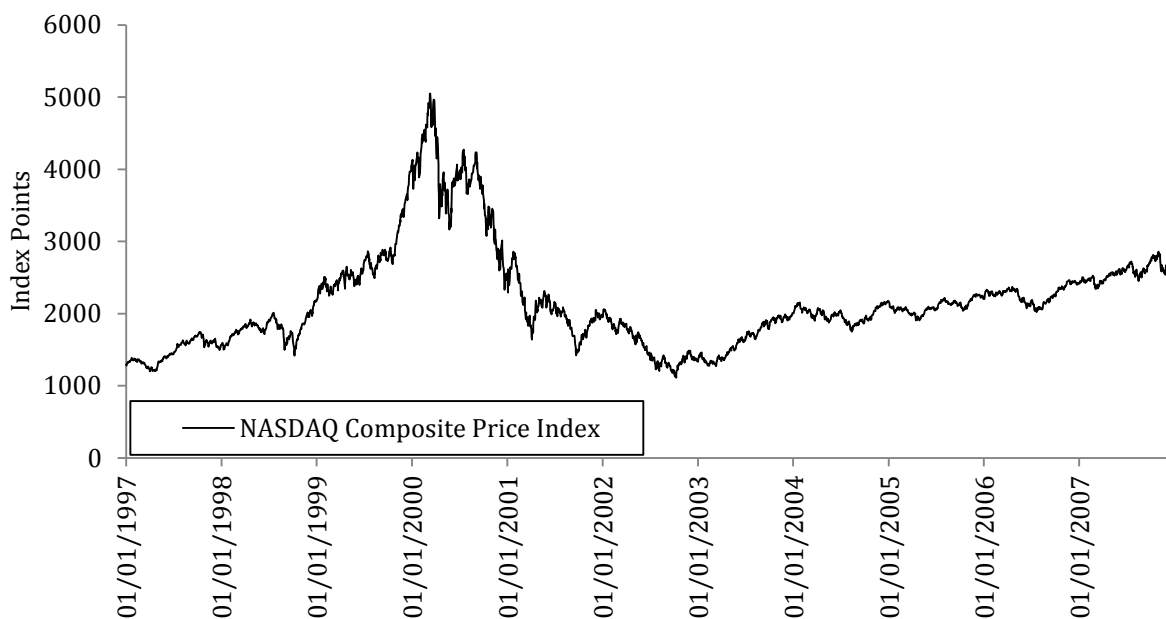
Accounting and Standards Board changed the accounting treatment of goodwill and other intangible assets through the Statement of Financial Accounting Standards 142 (FASB 2001). This changes meant that goodwill was no longer to be amortised over a specific time horizon but tested for impairment – having implications on reported special items. While amortisation according to a schedule is predictable and recurring and therefore not qualifies as a special item, impairments are expected to be non-recurring, therefore qualifying as special items and have a volatile effect on GAAP earnings. In addition, the U.S. Securities Exchange Commission (SEC) increased regulation of the reporting of non-GAAP earnings figures through the implementation of Regulation G in 2003 as a result of accounting scandals around the millennium shift such as Enron (Bowen et al. 2005). Kolev et al. (2008) study changes in the reporting of pro forma earnings before and after SEC intervention and find that items excluded from pro forma earnings are, on an aggregate level, more transitory in nature after the new regulation was implemented.

With a documented change in the accounting for pro forma earnings pre and post the SEC intervention we need to ensure consistent accounting regulation across the time series of observations used in our regressions, which limits our non-crisis window. Kolev et al. (2008) benchmark the SEC intervention as mid-2001, even though Regulation G did not become active until March 28, 2003. The official SEC warning regarding the reporting of pro-forma earnings information was communicated as of December 2001 (SEC 2001) and guidelines for the use of pro forma earnings in press releases was published in April 2001 by the Financial Executives Institute and the National Investor Relations Institute (National Investor Relations Institute 2001). Kolev et al. (2008) also perform a number of robustness checks with the conclusion that their results are not dependent on an exact cut-off time. As such, we decide to follow Kolev et al. (2008) in their selection of timing for the SEC intervention, implicating that the start of the non-crisis period should be set no earlier than Q3 2001 based on the changes in accounting standards.

In addition to ensuring consistent accounting regulation, we must (naturally) ensure that the defined non-crisis period is free from crisis quarters. Specifically, with the time period chosen, we must ensure that the period is free from any aftermath of the dotcom bubble and the 9/11 terrorist attacks. To determine a suitable cut-off point in relation to these two events, we will look mainly to the stock market developments and GDP growth.

Starting with analysing the NASDAQ Composite Index¹² closing values as shown in Figure 5, it is clear that the IT bubble peaked and crashed in early 2000s' followed by a decline in closing values which turned around first in the second half of 2002 - indicating that it was first at this point that the stock market began recovering.

Figure 5: NASDAQ Stock Market Development (Composite Index) 1997 to 2007

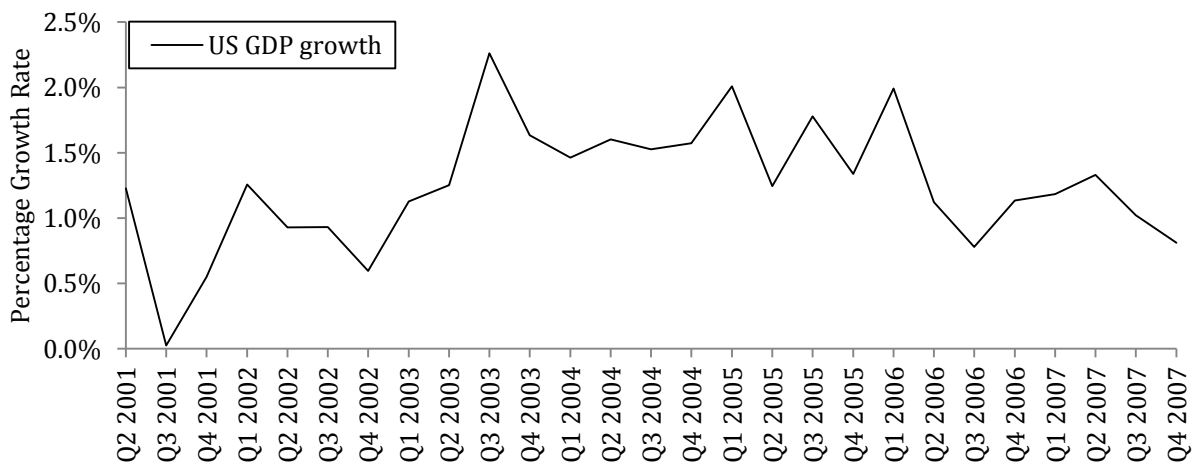


Source: Datastream 2014.

¹² The NASDAQ Composite Index is a broad based index and includes all NASDAQ domestic and international based common type stocks listed on The NASDAQ Stock Market (NASDAQ 2012).

However, when looking at the US GDP growth data in Figure 6, we see that the effects of the crash of the dot-com bubble was not as severe on the real economy as the effects on the stock market closing prices. In fact, only in Q3 2001 we observe no growth in GDP, bouncing back the following quarter. However, as the number of observations is sufficient, we choose to follow the most conservative data when defining the start of the control period, that is the stock market, setting the beginning of the non-crisis period to Q3 2002.

Figure 6: US GDP Growth Q2 2001 to Q4 2007



Source: Datastream 2014.

The end of the non-crisis period is determined as any quarter which was not determined to be suitable for inclusion in the crisis period, meaning that the end of the non-crisis period is set to Q2 2007. It could be questioned whether the quarters just approximate to the start of the crisis period are suitable for inclusion in the non-crisis window. One could argue that effects of the crisis could be noted in earlier quarters (such as the decline in the lower rated Mortgage Credit Default Swaps ABX Indices). However, we argue that as these effects were initial signs of the coming crisis, but as main effects on the real economy can be noted first in Q3 2007 (with the GDP growth rate actually increasing from Q3 2006 to Q2 2007) we choose to include the quarters just prior to the crisis. That sets the full non-crisis period between Q3 2002 and Q2 2007.

We note that the full chosen non-crisis period is marked with consistent positive GDP growth (see Figure 6). We thus consider the non-crisis period to be a time of continuing economic expansion, confirming its suitability as a non-crisis period for the purpose of this study.

How Defined Time Periods are Applied in Regressions

Having defined the specific quarters for the crisis and the non-crisis scenarios, it is suitable to note that these defined periods will be used differently in terms of future cash flows. For the long-term future cash flow tests for the crisis period, we will allow for future cash flows to extend over the defined crisis window. For the three-year test, that means that e.g. Q2 2009 exclusions will be regressed in relation to the future cash flows summed over Q3 2009 to Q3 2012. Thus the test investigates what effects of exclusions made during the financial crisis had on future cash flows, including an overlap of cash flows that are generated within the crisis window and post the crisis window. We allow for this overlap as this approach enables us to run longer-term regressions even with an eight-quarter long defined crisis period. Also, the main focus of our study being to compare the future implications of exclusions made during or before the financial crisis makes the macroeconomic conditions at the time of the exclusion critical, whereas the macroeconomic environment of the future cash flows are not central to our purpose. This approach also renders results free from hindsight bias, as you cannot know when a current crisis will end. Running regressions on all exclusions made during the crisis – disregarding when the crisis is over – is thus necessary for our results to be useful for practitioners.

On the other hand, when running the regressions on the non-crisis scenario, we will only include future cash flows in the dependent variable that takes place prior to the financial crisis to avoid overlap with crisis data. In doing this adjustment the control period is free from influences of crisis – both in the independent and dependent variables. This implies that the pool of independent data

points for the control period will vary depending on the test run, with more observations included in the short-term than in the long-term tests. For example, for the four quarter ahead tests data from Q3 2002 to Q2 2006 will serve as independent data points as the dependent variable of future cash flows will only require four quarter ahead data, the final quarter being Q2 2007. For the three year test, independent data points will be limited to Q3 2002 to Q2 2004 as the last summation of future cash flows will be done over Q3 2004 to Q2 2007 to not overlap into the crisis period.

This approach enables us to include as many data points as possible for each test while keeping the control period results free from overlap with crisis data. As a result, we have fewer observations for the regressions run over three years than for the regressions run over one year, especially when estimating coefficients for the non-crisis period. To ensure that our results are not affected by the different number of observations included in each of the different regressions, as a robustness check we rerun all regressions using only the observations from the longest future cash flow period. The results of this test confirm that the pattern and significance of our results are robust and do not change when only including companies with cash flows available for all three time periods tested (not reported).

4.4 The Sample

Our sample consists of quarterly data from Q3 2002 to Q2 2012 provided by the I/B/E/S Detail History Actuals database and the Compustat North America database. I/B/E/S provides actual pro forma EPS of companies, following the adjustment procedures of excluding discontinued operations, extraordinary charges, and other non-operating items (I/B/E/S International Inc. 2000). Compustat provides fundamental information on inactive and active publicly held companies in the US and Canada (Standard and Poor's 2014).

Using these databases limits our sample of companies to study to listed companies in North America. This is due to the fact that I/B/E/S only publishes actual earnings for these companies. This data limitation is seen as mainly positive given the focus of our study. With the financial crisis originating on the US market, companies listed in the US can be assumed to be impacted more directly than companies listed on e.g. African or European markets. However, this does have implications on the generalisation of results, which is discussed in the limitations section.

We choose to use the databases' quarterly data sets. Using quarterly data allows us to make use of the most frequent data points available, allowing more observations than if we would use yearly data. Also, it enables us to capture more details, i.e. the effects of exclusions made at different points in time during the year.

As the two databases utilise different codes for company identification we merge the two sources of data using the CRSP database, which provides links to the two types of company identifiers. First, we link I/B/E/S observations to CRSP using the I/B/E/S company ticker. Second, we link Compustat observations to CRSP using the global company key (GVKEY). This results in a total of 233,932 observations.

In order to have a consistent sample in terms of accounting standards and tax system we exclude companies that are not located in the US or do not report in USD, dropping a total of 39,509 observations. Furthermore, we drop 23,155 observations that are duplicates in terms of the variable values used in regressions. We finally exclude 1,994 additional observations representing companies that were not sorted correctly by dropping observations that are duplicates in terms of company identifier and date only. That leaves us with a number of observations equal to 169,274, which includes observations where total exclusions are equal to zero. The final number of

observations used in regressions are lower as we only include observations where exclusions are not equal to zero, resulting in a total of 59,189, 43,866 and 31,607 observations used in regressions with cash flows summed over four, eight and twelve quarters respectively.¹³

For companies with fiscal quarters differing from calendar quarters we used the majority of time overlap with the calendar quarters as the decision criteria how to categorize it, e.g. a fiscal quarter ending January 31st and labelled Q1 is restated as Q4 since the majority of business is conducted in the fourth calendar quarter. This is an important adjustment as we define cut-off points of our crisis and non-crisis scenarios based on calendar (not fiscal) quarters.

In line with prior research (e.g. Doyle et al. 2003; Anilowski Cain et al. 2013) we winsorize our sample to control for outliers. This practice hinders extreme outliers to dominate our results, such as big R&D expenses for pharmaceutical companies out of which the vast majority will not be realised into cash flows in the three year period studied as the launch of new pharmaceuticals take over 10 years on average (Paul et al. 2010). We winsorize at the 0.1% and 99.9% level and not at the 1% and 99% level as applied in prior research. We do this as we thereby adjust only the most extreme outliers and R^2 decreases for increasing the 0.1% to a 1% span while results are robust. Our results are also robust for trimming the sample (i.e. dropping outliers) instead of winsorizing it.

Descriptive Statistics

In Table 4 we report descriptive statistics on independent variables. In Panel 1, the first two columns show the mean and median for the complete estimation period (Q3 2002 until Q2 2009).

¹³ Doyle et al. (2003) run regressions on both the full sample of firms and only on observations where total exclusions are not equal to zero and find very similar results. We therefore do not expect our results to be impacted by the fact that we exclude observations with exclusions equal to zero.

The following three columns report the median for the all data items in the crisis period (Q3 2007 until Q2 2009), followed by the medians for high and low profitability companies in the crisis period. The last three columns report the median for all data items in the non-crisis period (Q3 2002 until Q2 2007), followed by the medians for high and low profitability companies in the non-crisis period. Panel 2 shows the number of excluded items not equal to zero, divided by type of exclusion and clustered by scenario and time frame of summed future cash flows. Panel 3 shows the correlations of independent variables included in the regression model.

There are some interesting observations to be made. In Panel 1, we see that mean values for the full sample are heavily influenced by outliers as they differ markedly from the median values, further supporting our decision to winsorize the sample. We also note that the medians for both types of income increasing exclusions are – in absolute values – bigger than for the two types of income decreasing exclusions, meaning that excluded expenses have bigger median values than excluded gains. In Panel 2, we note that all types of exclusions have above 500 observations for each regression run. Correlation data presented in Panel 3 indicates overall relatively low correlations between independent variables, two exceptions being a correlation of pro forma earnings and income decreasing other exclusions of 0.63 and a correlation of pro forma earnings and accruals of 0.59. The fact that few variables have high correlation decreases the risk of collinearity.

Table 4: Descriptive Statistics*Panel 1: Univariate Analysis*

	Full sample		Crisis			Non-Crisis		
	Mean	Median	Median Full	Median High Prof	Median Low Prof	Median Full	Median High Prof	Median Low Prof
INCINC_SPI	31.10	1.52	1.91	2.56	1.33	1.37	1.64	0.99
INCDEC_SPI	-17.68	-0.73	-1.09	-0.73	-1.26	-0.63	-0.61	-0.58
INCINC_OTHEXCL	28.14	1.30	1.85	1.69	1.67	1.08	0.81	0.99
INCDEC_OTHEXCL	-11.33	-0.54	-0.64	-0.69	-0.68	-0.50	-0.60	-0.46
PRO_FORMA	30.14	1.72	1.50	5.70	-2.09	1.80	4.86	-0.91
GROWTH	4.23	0.08	0.03	0.08	-0.05	0.10	0.14	0.04
ACCRUALS	-35.84	-1.93	-3.25	-2.39	-2.56	-1.54	-1.06	-1.23
ACCRUALS_L3	-24.63	-1.74	-2.37	-2.22	-1.46	-1.50	-1.34	-0.95
SIZE	5.46	5.43	5.46	5.84	4.58	5.42	5.77	4.57
BTM	-2.09	0.49	0.60	0.38	0.77	0.46	0.32	0.52
ATO	0.27	0.17	0.16	0.20	0.12	0.18	0.23	0.12

'Full' represents full sample. 'High Prof' ('Low Prof') represents the subcategory of companies that received the highest (lowest) core profitability ranking.

Statistics are calculated using non-scaled and non-winsorized data. INCINC_SPI, INCDEC_SPI, INCINC_OTHEXCL, INCDEC_OTHEXCL, PRO_FORMA, ACCRUALS and ACCRUALS_L3 are presented as million USD; GROWTH as an absolute growth rate (e.g. median growth rate for full sample is 8%); SIZE as natural logarithm of market capitalization.

Panel 2: N-statistics for Independent Variables not Equal to Zero Used in Z-Tests

	Crisis			Non-Crisis OFC_SUM4		
	Full	High Prof	Low Prof	Full	High Prof	Low Prof
INCINC_SPI	7,249	2,096	2,363	12,662	3,762	4,067
INCDEC_SPI	2,228	544	836	4,505	1,166	1,711
INCINC_OTHEXCL	8,577	2,256	3,007	14,154	3,259	5,420
INCDEC_OTHEXCL	10,006	3,865	2,701	23,574	9,502	5,429

	Non-Crisis OFC_SUM8			Non-Crisis OFC_SUM12		
	Full	High Prof	Low Prof	Full	High Prof	Low Prof
INCINC_SPI	9,418	2,808	3,067	6,254	1,870	2,056
INCDEC_SPI	3,379	868	1,279	2,283	585	860
INCINC_OTHEXCL	10,371	2,349	3,983	6,793	1,547	2,591
INCDEC_OTHEXCL	17,404	7,052	3,985	11,337	4,605	2,607

Table 4 Continued*Panel 3: Correlations*

	INCINC_SPI	INCDEC_SPI	INCINC_OTHEXCL	INCDEC_OTHEXCL	PRO_FORMA	GROWTH	ACCRUALS	ACCRUALS_L3	SIZE	BTM	ATO	MOMENT
INCINC_SPI	1											
INCDEC_SPI	0.01	1										
INCINC_OTHEXCL	0.10	-0.34	1									
INCDEC_OTHEXCL	-0.25	0.03	0.01	1								
PRO_FORMA	-0.21	-0.05	0.09	0.63	1							
GROWTH	0.01	-0.02	0.02	-0.03	-0.03	1						
ACCRUALS	-0.36	-0.12	-0.22	0.19	0.59	0.00	1					
ACCRUALS_L3	-0.03	0.05	-0.06	0.08	0.19	-0.06	0.14	1				
SIZE	-0.09	0.06	-0.06	0.09	0.19	-0.02	0.09	0.07	1			
BTM	-0.04	0.01	0.00	0.02	0.03	0.00	0.03	0.02	0.07	1		
ATO	0.00	-0.01	0.00	-0.01	0.07	0.00	0.01	-0.01	-0.10	-0.02	1	
MOMENT	-0.10	0.06	-0.07	0.07	0.22	-0.06	0.11	0.11	0.45	0.03	0.05	1

5. RESULTS AND ANALYSIS

In this chapter we will present and discuss the results to the two tests set up to determine whether exclusions have different implications on future operating cash flows in a crisis compared to a non-crisis scenario. For each hypothesis, we first interpret the results, second compare results to our expectations when developing the hypotheses and third contrast our results to relevant prior research.

5.1 Test 1: All Companies

The results of the first regression and subsequent Z-test can be found in Table 5 below.

Table 5: Quarterly Regression of Future Operating Cash Flows on Income Increasing and Income Decreasing Special Items and Other Excluded Items for the Non-Crisis and Crisis Scenarios

Regression Model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>			
INCINC_SPI	1.570**,++	2.587**,++	-3.257**,++
INCDEC_SPI	2.592**,++	5.675**,++	5.492**,++
INCINC_OTHEXCL	-1.113**,++	-3.647**,++	-7.535**,++
INCDEC_OTHEXCL	-0.731**,++	-2.397**,++	-8.239**,++
N	38,026	25,045	14,523
Adj R ²	0.2806	0.3073	0.4015
<i>Scenario: Crisis</i>			
INCINC_SPI	-0.865**,++	-2.692**,++	-6.560**,++
INCDEC_SPI	-0.002++	-1.425++	-3.081++
INCINC_OTHEXCL	-1.694**,++	-6.319**,++	-14.343**,++
INCDEC_OTHEXCL	-2.068**,++	-5.760**,++	-15.779**,++
N	21,163	18,821	17,084
Adj R ²	0.4117	0.3600	0.3363

*, ** indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.

+, ++ indicate 0.05 and 0.01 level significance, respectively, of a two-tailed Z-test testing whether the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) is not equal to each other.

Variable definitions are found in Table 3. Full results, including coefficients for control variables, can be found in Appendix A, Table A.1.

H1: Income increasing special items have different implications for a firm's future cash flows before and during the financial crisis

Starting with income increasing special items, we note that the non-crisis time period shows positive coefficients for the first two years. The coefficient when cash flows are summed three years then turns negative. These results indicate that, on an aggregate level, income increasing special items are associated with reversing future operating cash flows summed over the first two years and continuing operating cash flows when summed over a three year horizon. In other words, results indicate that 1 dollar of an excluded special item expense is associated with a total operating cash inflow of 1.57 dollar over the following four quarters, 2.59 dollars over the following eight quarters and total operating cash outflow of -3.26 dollars over the following twelve quarters.

In the crisis period, however, the equivalent results show negative coefficients for income increasing special items that grow over time. This indicates continuing future operating cash flows summed over all three time periods investigated, i.e. that special items expenses charged during the crisis period lead to increasing cash outflows over time.

The results of the Z-test suggest that all coefficients are significantly different from their respective opposite scenario coefficient at the 1% level. Hence, we can reject the null hypothesis that the implications of income increasing special items do not differ before and during the financial crisis. The results of the two scenario regressions suggest that income increasing excluded special items have a positive effect on future operating cash flows for the first two years following the exclusion when made during the non-crisis scenario, while similar exclusions when made in the crisis scenario leads to increasingly negative cash flows.

The fact that all coefficients are negative in the crisis scenario is in line with the expectations that companies are more prone to earnings management during a crisis than a non-crisis scenario, as bigger negative coefficients imply that more recurring expenses are misclassified which would be the case if earnings management increased.

However, the non-crisis scenario results in positive coefficients for the first two years. The fact that no such pattern is found in the crisis scenario is in line with the alternative expectation that restructuring programmes are more effective when done in a non-crisis scenario without the pressure of declining financial market conditions. Results are not in line with our third possible expectation that such restructuring charges are more effective during a crisis because firms are then under more pressure to implement real improvements.

As such, our results are both in line with the proposition of Tilden and Janes (2012), in terms of earnings management being more common in times of crisis than in times of non-crisis, and the findings of Cready et al. (2012), who found that income increasing special items lead to future performance improvements. However, as the number of observations restricted us from being able to conduct an analysis on the separately identifiable special items we cannot in this study determine that restructuring charges specifically are a cause for the shifting patterns between the two business cycle scenarios, just note the alignment of results.

H2: Income decreasing special items have more (less) negative implications for a firm's future cash flows before (during) the financial crisis

Moving on to income decreasing special items, coefficients estimated for such exclusions made during the non-crisis period are positive and significant. This implies that income decreasing special items gained during the non-crisis period are related to future operating cash outflows. The

coefficients in the crisis period are not significantly different from zero, implying that income decreasing special item exclusions made during the crisis scenario are transitory, i.e. unrelated to future operating cash flows.

The Z-test shows that all coefficients are significantly different from the corresponding other scenario coefficient at the 1% level. We thus reject the null hypothesis that income decreasing special items excluded during the financial crisis do not have more negative implications for a firm's future cash flows than when excluded before the financial crisis. The results suggest that excluded income decreasing special items are associated with future operating cash outflows summed over all three time spans in the non-crisis scenario but are transitory when made in the crisis scenario.

These results are in line with our expectation that, with income decreasing special items consisting primarily of gains from sold-off assets and subsidiaries, the cash flow generating abilities of divested assets is higher in times of economic expansion than in times of crisis. In other words, our results are in line with reasoning that assets and subsidiaries divested in economic expansion will lead to lower future cash flows as companies have sold off a cash flow generating entity, while such entities will on average not have been so well performing in the crisis scenario leading to insignificant losses of future cash flows for the selling firm.

Comparing our results to those of previous studies, we note that other studies have found that income decreasing special items are mainly transitory with no significant relationship with future firm performance (Cready et al. 2012; Fairfield et al. 2009). In contrast, we find a significant relationship between income decreasing special items and lower future operating cash flows for the non-crisis scenario.

A number of possible reasons exist as to why we might get significant results for income decreasing special items when other studies have not. A reason for this difference could be that the setup of the studies differ. Notably, we apply a larger set of control variables which all have explanatory power in our regressions (See Appendix A). This means that we isolate the effects of the excluded items on the dependent variable to a greater extent than prior research, which could contribute to differing results. Another difference lies in the dependent variable. While our study focuses on operating cash flow, Cready et al. (2012) focus on changes in earnings and Fairfield et al. (2009) focus on profit margins. The differing results are in line with the reasoning that future operating cash flows are more correlated with income decreasing special items than changes in earnings and profit margins. The third difference lies in the fact that we take the macroeconomic environment into account when setting up the study, in line with the argument that income decreasing special items are only related to future operating cash flows during times of non-crisis.

H3: Income increasing other exclusions have more (less) negative implications for a firm's future cash flows during (before) the financial crisis

We next look at income increasing other exclusions. Income increasing other exclusion show increasingly negative coefficients for both scenarios, implying that income increasing other exclusions lead to future operating cash outflows both in the crisis and non-crisis scenario. While the trends for the coefficients in both scenarios are comparable, the size of the coefficients during the crisis is roughly twice as big as the respective non-crisis coefficient. This suggests that for two exclusions of other excluded expenses of the same size – one made during crisis and one made during non-crisis – the exclusion in the crisis scenario is associated with a negative cash flow twice the size as the exclusion made in the non-crisis scenario.

The difference between scenarios is confirmed in the results of the Z-test that shows that the larger coefficients for the crisis period are significantly different from the non-crisis scenario coefficients for all three time spans. This means that we, at the 1% level, can reject the null hypothesis that income increasing other exclusions made during the financial crisis do not have more negative implications for a firm's future cash flows than when excluded before the financial crisis. The results show that such exclusions are associated with larger negative cash flows when made during the crisis scenario than when made in the non-crisis scenario.

These results are in line with our expectations to find a larger correlation with negative future cash flows in a crisis scenario based on an increased incentive to manage earnings in such macroeconomic environments.

We note that our results are aligned with those of Doyle et al. (2003) that other excluded items have a negative relationship with future operating cash flows with increasingly negative coefficients as you expand the time horizon of future operating cash flows.¹⁴ We take the conclusions of Doyle et al. (2003) one step further in this study by showing that income increasing other excluded items are to a larger extent misclassified in the crisis scenario compared to the non-crisis scenario. This supports the findings of Tilden and Janes (2012) that firms are more likely to manage earnings during the crisis scenario.

¹⁴ There is a possible difference between our results on other exclusions and that of Doyle et al.'s (2003). The size of the coefficients differ, with our coefficients being larger than those of Doyle et al. (2003). These differences could be a result of either us having a differently specified model or that the effects of other excluded items have changed in time as Doyle et al. (2003) conduct their tests on an earlier sample. The second explanation would mean that other exclusions have bigger impacts on future operating cash flows now compared to during the time period of the sample of Doyle et al. (2003). However, as we do not conduct any tests to verify that our coefficients are significantly different from those of prior studies and that there are a number of factors preventing us from relying on the exact values of the coefficients (issues we discuss in the limitations section of this thesis) we choose only to make conclusions based on the significance and the sign (i.e. negative or positive values) of the coefficients, not the size of the value in comparing our results to prior research.

H4: Income decreasing other exclusions have more (less) positive implications for a firm's future cash flows during (before) the financial crisis

As a final type of exclusion analysed in Test 1, we look at income decreasing other exclusions. Income decreasing other exclusions yield increasingly negative coefficients for both the non-crisis and crisis scenario. This implies that gains in other exclusions are associated with future positive cash flows during both scenarios. They display a similar pattern as income increasing other exclusions, with bigger coefficients in the crisis scenario.

The Z-test results show that respective coefficients are significantly different from each other in all three time spans, confirming that negative coefficients during the crisis scenario are in fact bigger than in the non-crisis scenario. This means that gains in other exclusions are associated with higher positive future operating cash flows when made during the crisis as opposed to the non-crisis scenario. As the Z-test is significant at the 1% level, we reject the null hypothesis that income decreasing other exclusions made during the financial crisis do not have more positive implications for a firm's future cash flows than when excluded before the financial crisis. We thus note that other exclusions – both income increasing and income decreasing – made during the crisis scenario result in bigger effects on future cash flows than when made during the non-crisis scenario.

The results for income decreasing other exclusions are in line with the expectation that gains on stock compensation package revaluations lead to lower costs for the company if realised in the years in or following the crisis scenario.¹⁵

¹⁵ Same as for income increasing special items, we must note that as we have only performed the analysis on income decreasing other exclusions as one group we can only comment on the alignment with expectations, not conclude that this is in fact the root cause. Such a conclusion would require more detailed analysis on individual parts of income decreasing other exclusions not enabled by the sample used in this study.

With Doyle et al. (2003) studying other exclusions on an aggregate level, not dividing them into income increasing and income decreasing items, no study has previously analysed the different future implications of these two types of other exclusions. We note that our results are in line with those of Doyle et al. (2003) in resulting in negative coefficients for low profitability firms for all types of other exclusions. However, we take the conclusions of Doyle et al. (2003) one step further in showing that other excluded income decreasing items lead to future positive cash flows. Our results therefore adds a new dimension to the findings of Doyle et al. (2003) by showing that other exclusions lead to either positive or negative future cash flows dependent on whether the exclusion is a gain or an expense, not only to negative future cash flows as proposed by Doyle et al. (2003).

To sum up our results of the first test, we note that we have rejected the null hypothesis for each of the hypotheses one to four, indicating that future implications of all types of excluded items reviewed have different implications on cash flows when made during or before the financial crisis. Results for income increasing exclusions are in line with the proposition of Tilden and Janes (2012) that companies are more prone to earnings management in the crisis scenario. Overall results show support for the conclusion made by prior research on pro forma earnings, namely that exclusions made are mainly recurring i.e. they do have an effect on future firm performance. The only exception found is income decreasing special items made during the crisis scenario which are transitory in nature.

5.2 Test 2: Companies with High and Low Core Profitability Ranking

In this test we add the component of core profitability to our analysis and examine the different implications of exclusions for high and low core profitability companies in the crisis and non-crisis scenarios. Hypotheses five and six are rejected or not rejected based on each individual type of exclusion analysed. Results from regressions and Z-tests are found below in Table 6.

Table 6: Quarterly Regression of Future Operating Cash Flows on Excluded Items for the Non-Crisis and Crisis Period for Companies Based on Core Profitability Ranking

Regression model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	<i>Lowest Core Profitability Ranking</i>			<i>Highest Core Profitability Ranking</i>		
	OCF_SUM4	OCF_SUM8	OCF_SUM12	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>						
INCINC_SPI	-0.765 ^{*,++}	-1.227 ^{**}	-1.084 ^{*,++}	6.079 ^{*,++}	11.497 ^{*,++}	-3.954 ^{**}
INCDEC_SPI	0.801 ^{*,++}	1.688 ^{**}	5.060 ^{*,++}	3.366 ^{*,++}	7.747 ^{*,++}	4.577 ^{*,++}
INCINC_OTHEXCL	-0.957 ^{**}	-2.491 ^{*,++}	-2.955 ^{**}	-1.373 ^{*,++}	-4.837 ^{*,++}	-11.097 ^{*,++}
INCDEC_OTHEXCL	-2.009 ^{**}	-4.305 ^{*,++}	-6.119 ^{*,++}	0.818 ^{*,++}	0.336 ⁺⁺	-7.964 ^{*,++}
N	11,562	7,323	4,098	12,248	8,221	4,882
Adj R ²	0.337	0.362	0.315	0.3401	0.3735	0.4814
<i>Scenario: Crisis</i>						
INCINC_SPI	-1.189 ^{*,++}	-1.687 ^{**}	-2.590 ^{*,++}	-0.883 ^{*,++}	-2.872 ^{*,++}	-5.691 ^{**}
INCDEC_SPI	-0.013 ⁺⁺	0.970 [*]	0.905 ⁺⁺	-1.192 ^{*,++}	-4.546 ^{*,++}	-15.214 ^{*,++}
INCINC_OTHEXCL	-1.048 ^{**}	-1.554 ^{*,++}	-2.535 ^{**}	-2.306 ^{*,++}	-10.727 ^{*,++}	-26.404 ^{*,++}
INCDEC_OTHEXCL	-2.006 ^{**}	-4.637 ^{*,++}	-7.100 ^{*,++}	-2.364 ^{*,++}	-6.252 ^{*,++}	-15.690 ^{*,++}
N	6,411	5,377	4,785	6,870	6,259	5,763
Adj R ²	0.3321	0.4902	0.4744	0.4720	0.4192	0.4009

^{*}, ^{**} indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.
^{+,++} indicate 0.05 and 0.01 level significance, respectively, of the difference between the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) using a two-tailed Z-test.
Variable definitions are found in Table 3. Full results, including coefficients for control variables, can be found in Appendix A, Tables A.2-4.

H5: Excluded items have different implications for a low core profitability firm's future cash flows before and during the financial crisis

Income Increasing Special Items

Starting with analysing income increasing special items for low core profitability firms, the regression model reports relatively small negative coefficients for the non-crisis time period. During the crisis scenario, income increasing special items also show significant negative coefficients which increase over time. This implies that when low profitability companies report income increasing special items it leads to lower future operating cash flows both during the crisis and non-crisis scenario.

The Z-test shows that the one year and three year coefficients for income increasing special items are significantly different from each other, indicating slightly more negative cash flows in the crisis scenario. However, the two-year coefficients are not significantly different from each other. This means that we cannot reject the null hypothesis that income increasing special items do not have different implications for a low core profitability firm's future cash flows before and during the financial crisis.

These results are not in line with our expectations for income increasing special items made by low core profitability companies, which were to find a stronger relationship between such excluded items and negative future cash flows when made during the non-crisis period based on the proposition that low-profitability firms have greater incentives to manage earnings during times of economic expansion. This is further confirmed by the fact that the two sets of regressions that do result in significantly different future cash flows, when cash flows are summed over four and twelve quarters, indicate the opposite, i.e. that income increasing special items lead to bigger negative cash flows when made during the crisis scenario.

Contrasting this result to prior research, it contradicts Strobl (2009) who proposed that low profitability companies would have increased incentives to manage earnings in the non-crisis scenario.

Another relevant paper is that of Fairfield et al. (2009), who find no significant relationship between future profit margin and income increasing special items for companies ranked with lowest core profitability. Contrary to their findings, we find a significant relationship for both the crisis and non-crisis period, even if the coefficients are generally lower than the equivalent coefficients for the highest ranked profitability companies. This difference in results could be due

to the same reasons for the significance found for income decreasing special items discussed for the results of Test 1. It could also be due to the fact that companies with lower core profitability now misclassify more special items than what was true for the time period studied by Fairfield et al. (2009).

Income Decreasing Special Items

Moving on to income decreasing special items for low core profitability firms, we find increasing positive coefficients for income decreasing special items for the non-crisis time period. Analysed together with the results for income increasing special items, this implies that special item exclusions made by low profitability firms during non-crisis on average lead to relatively small negative future operating cash flows – regardless of whether the excluded special item is an expense or a gain.

During the crisis scenario, income decreasing special items' estimated coefficients are mainly insignificant. This implies that when low profitability companies report income decreasing special items these exclusions are transitory, i.e. do not have a clear association with future operating cash flows.

The Z-test shows the same results as for income increasing special items, namely that the one year and three year coefficients are significantly different from each other, while the two-year coefficients are not. This means that we cannot reject the null hypothesis that income decreasing special items do not have different implications for a low core profitability firm's future cash flows before and during the financial crisis. Results therefore indicate no difference in the implications on future cash flows of income increasing special items made by low core profitability companies before and during the financial crisis.

These results are not in line with our expectations for income decreasing special items, which where that we would find insignificant results in the non-crisis and significant, positive results in the crisis scenario based on expectations that divested assets for low profitability firms have lower profitability on average and during the crisis scenario have negative profitability (leading to lower future costs for the firm if the asset is sold off). Instead, results for low profitability firms follow the expectations as stated for all companies in Test 1. This means that results are in line with our reasoning that firms sell off assets that are on average more profitable during the non-crisis scenario, which leads to a loss of future cash flows when that asset is sold.

As such, these results are also in contrast to the results of Fairfield et al. (2009) as we find significant results for income decreasing special items in the crisis scenario where they find none. This suggests that income decreasing special items only tend to include misclassifications in the non-crisis scenario but not in the crisis scenario, which could explain the difference in results.

Income Increasing Other Exclusions

For income increasing other exclusions, we note significant increasing negative coefficients in both scenarios. This implies that other excluded expenses for low core profitability firms are associated with future operating cash outflows for all consecutive years following the exclusion during the non-crisis period and the crisis period.

With the size and pattern of the coefficients being similar in the two scenarios, the Z-test shows no consistent differences between the income increasing other exclusions made in the crisis and non-crisis scenario. We therefore do not reject the null hypothesis that income increasing other excluded items do not have different implications for a low core profitability firm's future cash flows before and during the financial crisis.

These results are not in line with what we expected, which was to find bigger negative future cash flows in the non-crisis scenario based on increased incentives for low profitability companies to manage earnings during economic expansion.

With these results reflecting our findings for income increasing special items for low profitability companies, our results contradicts Strobl's (2009) findings that low profitability companies would have increased incentives to manage earnings in the non-crisis scenario for both income increasing special items and other exclusions. This suggests that aspects in Strobl's (2009) theoretical model do not reflect real life circumstances.

Income Decreasing Other Exclusions

Finally, income decreasing other exclusions also show significant increasing negative coefficients in both scenarios. This implies that other excluded gains made by low profitability firms result in operating cash inflows when made in both the crisis and non-crisis period, the opposite effect than what we observed for income increasing other exclusions.

Similarly as for income increasing other exclusions, with the size and pattern of the coefficients being similar in the two scenarios the Z-test shows no consistent differences between the income decreasing other exclusions made in the crisis and non-crisis scenarios. We therefore do not reject the null hypothesis that other excluded items do not have different implications for a low core profitability firm's future cash flows before and during the financial crisis. This result indicate no difference in implications for future cash flows of income increasing other exclusions dependent on whether such exclusions are made during or before the financial crisis.

These results are not in line with our expectations, which were that gains on stock compensation package revaluations would lead to lower future cash outflows especially during the crisis period.

With prior research having only analysed other exclusions on an aggregated level, not dividing it into the sub-components expenses and gains, our results takes the conclusions of Doyle et al. (2003) one additional step further in showing that other excluded income decreasing other items lead to future positive cash flows not only when running regressions on all companies but also when looking only at low core profitability companies specifically.

In sum, as we have not been able to reject the null hypothesis for any type of exclusion for low profitability firms, this means that we cannot reject the possibility that all types of excluded items have similar implications for a low core profitability firm during the non-crisis and the crisis period.

H6: Excluded items have different implications for a high core profitability firm's future cash flows before and during the financial crisis

Income Increasing Special Items

Moving on to analysing the results for high core profitability firms, we start with income increasing special items. When such exclusions are made in the non-crisis period, coefficients are positive for future cash flows summed over one and two years while it is negative for future cash flows summed over three years. We find that the switch in the value of the coefficient for income increasing special items as found in Test 1 is driven by high profitability companies, while the economic explanation of this switch in value remains unclear. During the crisis period income increasing special items show the opposite effect as the short-term implications for the non-crisis scenario, i.e. negative coefficients. These results suggest that special item expenses made by high

core profitability firms in the non-crisis scenario are associated with future operating cash inflows in the short term (the one and two year window) while such expenses lead to future negative operating cash flows when excluded during the crisis scenario.

The Z-test suggests that coefficients for income increasing special items made by high core profitability firms are significantly different from their corresponding coefficient except for income increasing special items when cash flows are summed over three year. We thus cannot reject the null hypothesis that income increasing special items do not have different implications for a high core profitability firm's future cash flows before and during the financial crisis. However, we do note that the first two time periods are significantly different from each other, indicating that our proposition is true for this type of special items in a shorter-term window.

These results are thus on an overall level not in line with our expectation of finding bigger relation with negative future cash flows in the full crisis scenario, only for the first two time periods.

Contrasting our results to previous studies, we recall that Fairfield et al. (2009) found a significant relationship between income increasing special items and lower future profit margins for the companies with the highest core profitability ranking. We find similar results for the full crisis scenario as well as for the non-crisis period when future operating cash flows are summed over three years. However, we can also deduct that the results in line with Cready et al. (2012), i.e. that income increasing special items lead to higher future operating cash flows the two following years during the non-crisis scenario, are driven by the companies with high core profitability. These conclusions further add to our understanding of the recurring nature of excluded items and the difference in results found in previous studies by showing that such differences are driven by high profitability companies.

However, we do want to point out that we do not believe that macroeconomic conditions give the full explanation as to why the results of these previous studies differ. There are two main reasons for this caveat. First, while Cready et al. (2012) study a time period between 2002 and 2009 with independent observations mainly within the non-crisis time frame, Fairfield studies a period between 1988 and 1999 which can be said to cover both potential crisis and non-crisis scenarios. This makes the link between the results of Fairfield et al. (2009) to our results for high profitability companies in the crisis period not clear-cut, and cannot be said to provide full explanation for the differing results. Second, our results also show coefficients in line with the findings of Fairfield et al. (2009) for high profitability firms in the non-crisis period when cash flows are summed over three future years, making the case even less clear-cut. However, we do consider our results to represent one possible contributing factor to the differing results.

Income Decreasing Special Items

Moving on to income decreasing special items, coefficients are positive and significant for all non-crisis time frames. During the crisis period, similarly as for income increasing special items, income decreasing special items show the opposite effect as the non-crisis scenario namely negative coefficients which increase over time. These results suggest that special item gains made by high core profitability firms are associated with future operating cash outflows during the non-crisis scenario and with future operating cash inflows during the crisis scenario. Thus, both income increasing and income decreasing special items can be said to be continuing in the crisis scenario, i.e. that the effect (positive or negative) continues in the years following the exclusion.

The Z-test suggests that coefficients for income decreasing special items made by high core profitability firms are significantly different from their corresponding coefficient. We thus reject

the null hypothesis that income decreasing special items do not have different implications for a high core profitability firm's future cash flows before and during the financial crisis.

Rejecting the null hypothesis implies that our results are in line with our expectations to find a bigger correlation between income decreasing special items and negative future cash flows during the non-crisis scenario as we hypothesised that assets sold would on average have been more profitable and when divested a firm's loses related future cash flows produced by the firm. However, as coefficients for the low core profitability sample of companies also indicate negative future cash flows, comparing coefficients for income decreasing special items in the non-crisis scenario for high and low core profitability companies reveals no clear difference between the two groups of companies. The results thus follow the aggregate results of test one while we make no claims that such results are specially relevant for high core profitability firms.

In comparing our results to that of previous literature, we see that in addition to the fact that we get significant results for income decreasing special items in the non-crisis scenario in Test 1, when controlling for core profitability income decreasing special items become significant also in the crisis period for high profitability firms. The result implies that excluded income decreasing special items are related to future increases of operating cash flows for companies with the highest profitability ranking during both the crisis and non-crisis scenarios. This observation indicates that it is companies with high profitability ranking that to the largest extent misclassify non-transitory items as excluded items, especially during the crisis time period.

Income Increasing Other Exclusions

When turning to income increasing other exclusions, such other exclusions show increasingly negative coefficients for the full non-crisis period. In the crisis scenario, we observe increasing

negative coefficients for all time spans that are larger in absolute terms than their respective non-crisis coefficient.

The Z-test confirms that coefficients for income increasing other exclusions made by high core profitability firms are significantly different from their corresponding coefficient in the two scenarios. We can therefore reject the null hypothesis that income increasing other exclusions do not have different implications for a firm's future cash flows before and during the financial crisis if a firm has high core profitability. This implies that income increasing other exclusions are associated with future negative cash flows for both scenarios, and that negative cash flows are bigger in the crisis scenario.

These results are in line with our expectations to find more recurring expenses misclassified as non-recurring items during the crisis scenario.

With long-term coefficients for income increasing other exclusions being notably large, these findings supports and brings new light on the proposition put forward by Tilden and Janes (2012) that firms are more likely to manage earnings in times of crisis. Our results show that their findings are especially relevant for high profitability firms.

Income Decreasing Other Exclusions

Finally, turning to income decreasing other exclusions we observe that during the non-crisis period such other exclusions do not show a clear pattern and return a positive coefficient for the one-year time span, insignificant coefficient for the two-year time span and a negative coefficient for the three-year time span. This indicates that income decreasing other exclusions, when made in the non-crisis period, lead to small negative operating cash flows in the one-year window, but reverses

and lead to positive operating cash flows when expanding to a three-year window. In the crisis scenario results show increasing negative coefficients for all time spans. This implies that, similarly to the two types of special items studied, both types of other exclusions when made during the crisis scenario are associated with future operating cash outflows when they are expenses and future operating cash inflows when they are gains.

The Z-test confirms that all coefficients for income decreasing other exclusions are significantly different from the corresponding coefficient. We can therefore reject the null hypothesis that income decreasing other exclusions do not have different implications for a firm's future cash flows before and during the financial crisis if a firm has high core profitability. Results show that future cash flows are more positive during the crisis period.

These results are in line with our expectations of more positive cash flows linked to income decreasing other exclusions during the crisis scenario as we hypothesised that such gains linked to revaluation of stock-based compensation packages would lead to lower future cash outflows based on expected lower costs when such compensation packages mature. An interesting thing to note is the fact that the long-term coefficient for income decreasing other exclusions made by high profitability firms in the crisis period is quite large compared to the equivalent coefficient for low profitability firms. This could be because high profitability firms should on average have higher stock prices which allows for larger fluctuations.

The results of this test further contributes to the findings of Doyle et al. (2003) by refining the understanding of income decreasing other exclusions in that they, when made by high core profitability firms, lead to increased positive cash flows in the full crisis scenario and long-term

non-crisis scenario while leading to small negative small negative cash flows in the non-crisis one year window.

Concluding our results related to hypothesis six, we have rejected the null hypothesis for all types of exclusions made by firms with high core profitability except for income increasing special items. An overview of null hypothesis rejections for all hypotheses can be found in Table 7 below.

Table 7: Overview of Null Hypothesis Rejections

Hypothesis	H₀ rejected?
H1: Income increasing special items have different implications for a firm's future cash flows before and during the financial crisis.	H ₀ rejected
H2: Income decreasing special items have more (less) negative implications for a firm's future cash flows before (during) the financial crisis.	H ₀ rejected
H3: Income increasing other exclusions have more (less) negative implications for a firm's future cash flows during (before) the financial crisis.	H ₀ rejected
H4: Income decreasing other exclusions have more (less) positive implications for a firm's future cash flows during (before) the financial crisis.	H ₀ rejected
H5: Excluded items have different implications for a low core profitability firm's future cash flows before and during the financial crisis.	H ₀ not rejected
H6: Excluded items have different implications for a high core profitability firm's future cash flows before and during the financial crisis.	H ₀ rejected for all types of exclusions except for income increasing special items

In summary, our results support prior research in the field studying pro forma earnings in that the majority of excluded items do have future implications on future firm performance. We extend prior research by showing that the future implications of such exclusions are dependent on the macroeconomic environment for all types of companies when analysed together. When controlling for core profitability, we find that the future implications of exclusions are only dependent on

macroeconomic environment for high core profitability firms (true for all types of exclusions except for income increasing special items). Our results strongly indicate that misclassifications are driven by high profitability companies, especially in the crisis scenario.

When results are analysed in the light of previous research, our results provide the following conclusions. First, the fact that our results for income increasing special items align partially with those of Fairfield et al. (2009) and partially with the contradicting results of Cready et al. (2012) suggests that shifting macroeconomic environment can help explain why studies have found income increasing special items to be associated with both positive and negative firm performance by separate studies. Second, our results contradicts previous studies in that we find significant results for income decreasing special items for all firms in the non-crisis period and high core profitability firms in the crisis scenario. Third, we take the study of Doyle et al. (2003) one step further by dividing other exclusions into its income increasing and income decreasing components and show that income decreasing other exclusions are associated with future positive cash flows for both scenarios for both low and high core profitability companies, except for in the short run for high profitability companies in the non-crisis period. Fourth, our results are contradictory to those of Strobl (2009) that low-profitability firms should be more prone to earnings manipulation in times of economic expansion but in support of conclusions of Tilden and Janes (2012) that firms are more likely to manage earnings in times of crisis. We find that these results are driven by high profitability companies.

6. LIMITATIONS

The conclusions drawn depend on the validity of the setup of our study. In this section we discuss potential weaknesses and assess their impact on the robustness of our findings.

One main possible weakness of our study identified is the fact that we have used a proxy for pro forma earnings disclosed by companies. The pro forma earnings number used from the I/B/E/S Detail History Actuals database is, as previously stated, the consensus earning figure as defined by analysts, not companies. While the vast majority of studies in this research field use the I/B/E/S figure as a proxy for evaluating company disclosure, there are exceptions that use the same figure to evaluate analysts' skills in separating more permanent vs. transitory non-recurring item posts from core earnings (e.g. Gu and Chen 2004).

The validity of our conclusions is dependent on whether the pro forma earnings number from the I/B/E/S database is a valid proxy for analysing company disclosure, a question that is still somewhat of an open debate. Critics of the measure include Bhattacharya et al. (2003), who analyse pro forma earnings based on the pro forma earnings reported in press releases (press release EPS) as well as the I/B/E/S actual earnings figure (I/B/E/S EPS). Even though they find that press release EPS and I/B/E/S EPS are the same in 65% of the cases, they still note a significant difference between the two figures and conclude that the use of I/B/E/S EPS as a proxy for pro forma earnings can be problematic.

While acknowledging that I/B/E/S EPS is not a perfect proxy for pro forma earnings, meaning that exact values of coefficients should be interpreted with some leeway, we do not find Bhattacharya et al.'s (2003) reasoning sufficient to question the pattern of our results. There are three reasons for this.

First, even though they find significant difference between the mean of I/B/E/S EPS and press release EPS, the difference is relatively small (4 cents per share). Notably, they also find that the I/B/E/S EPS is on average 19 cents higher than GAAP EPS and press release EPS is 23 cents higher than the GAAP EPS, making the difference between the two pro forma EPS figures relatively small compared to the differences of the two alternative earnings measures to the GAAP earnings figure. The average GAAP EPS is negative while both the average I/B/E/S EPS and the press release EPS are positive. In addition, both the I/B/E/S EPS and press release EPS show similar values across percentiles and median figures. This indicates that they follow a similar pattern across the sample of Bhattacharya et al. (2003).

Second, other studies that have compared pro forma EPS consensus figures provided by databases and press release pro forma EPS have found no significant differences between the two earnings figures (Bhattacharya et al. 2002; Johnson and Schwartz 2001).

Third, Doyle et al. (2003) draw 50 randomly selected I/B/E/S actual earnings numbers from their sample and can reconcile 48 of them perfectly with pro forma earning figures as reported in press releases.

Because of these reasons we decide to follow the majority of previous research in using the I/B/E/S actual earnings as a proxy for pro forma earnings as it enables us to study a larger sample than what would have been possible using press releases. Based on the work done by previous studies to reconcile the two measures we deem this issue not severe enough to question the validity of the pattern and significance of our results. However, the precise values of the coefficients should not be interpreted literally.

Another set of limitations to our study arises with the use of special items as reported by Compustat. First, we rely on Compustat to correctly and consistently classify special items. These special items are at least partially identified by analyst, which introduces the risk of human error and subjectivity in determining which items to include (Doyle et al. 2013). However, we consider such human errors to have a minor effect on our results as errors in classifying would lead to noise, reducing the probability of significant results.

Second, a possible limitation not addressed in previous literature is that special items are reported by Compustat as a net figure. This means that income increasing special items and income decreasing special items for the same quarter are not separately identified but reported as the net worth of total special items. This issue transfers when calculating other exclusions which are also only obtained as a net figure. As a result we cannot claim to test the actual income increasing and income decreasing excluded items as reported by the company, since our regressions are based on net figures. This bias reduces the informativeness of the excluded item variables, making it less probable for us to reject the null hypotheses. As this bias makes it harder, rather than easier, for the null hypothesis to be rejected it is not considered severe in terms of questioning the robustness of our overall results.

A third issue, also not addressed in previous literature, relates to possible data management error in the case where pro forma earnings are equal to GAAP earnings and special items as retrieved from Compustat are not equal to zero. As we calculate other exclusions as a residual, by taking total exclusions (which in this specific case would be zero) less special items (non-zero), other exclusions would be the additive inverse of the special items figure. While possible that a company has both special items and other exclusions of the exact opposite size, we consider it highly unlikely. More likely is that companies have chosen to not exclude what Compustat has labelled

special items from pro forma earnings as they, for some reason, believe that the special items are recurring. If that is the case, total exclusions as well as special items and other exclusions should be zero for the intent and purpose of this study, as in fact no exclusions have been made.

When checking for how common such an occurrence is in our sample, we found that pro forma earnings were equal to GAAP earnings and special items were not equal to zero in 7.6% of our observations. While that seems to be a significant amount, rerunning the regressions setting special items and other exclusions equal to zero if pro forma earnings equals GAAP earnings does not affect the significance nor the pattern of our results. Consequently, this is concluded not to be a main issue of concern for the robustness of our results.

A fourth and final issue concerning the use of special items derived from Compustat relates to tax. With special items available pre-tax, applying the statutory tax rate to calculate after tax special items introduces bias (Cready et al. 2012). With the effective tax rate having been shown by Beaver et al. (2006) to be lower than the statutory tax rate, applying the statutory tax rate results in smaller values of after tax special items than what we would have if the effective tax rate was known. This bias results in ceteris paribus larger coefficients and thus a greater likelihood to reject the null hypothesis. As the effective tax rate on special items is not reported we make use of the reported effective tax rate on the constituents of special items where such data is available, namely restructuring charges, goodwill impairment and asset write downs. This allows us to mitigate the bias by only applying the statutory tax rate on the part of special items where effective tax rates are not available, in effect applying the effective tax rate on 92% of the total value of special items. With only 8% of special items in our sample affected by a bias imposed by utilising the statutory tax rate, we deem the risk of this potential bias to affect our results as low.

Another main possible limitation to address is a potential survivorship bias. This specific bias is critical to review for our study since we study a crisis period and would expect an increased number of bankruptcies as a result of the crisis. If more companies go bankrupt during the crisis period, only surviving firms would be included in the crisis regressions resulting in too optimistic predictions in terms of future cash flow implications. That would, in the case that excluded items lead to negative cash flows, mean that the crisis scenario would include less companies that were negatively affected by the exclusions as those would be bankrupt.

To analyse if such a bias is probable to affect our results, we use the Compustat data item STALTQ to identify cases of bankruptcy, as it flags the case of a company being in bankruptcy or liquidation. Our sample includes 5,504 companies, out of which 212 are flagged as bankrupt or in liquidation, and the liquidations last for an average of 3.6 quarters. Surprisingly, during our non-crisis period more companies enter bankruptcy or liquidation than during our crisis period. While in the crisis period and the following forecast period (Q3 2007 - Q2 2012) an average of 2.75 companies per quarter enter bankruptcy or liquidation, for the non-crisis period the equivalent average is 7.75 companies per quarter. Therefore we do not expect our results for the crisis period to be overly optimistic as a result of only including surviving companies, since the number of bankrupt companies is smaller per quarter during the crisis as compared to the non-crisis scenario.

Another possible aspect of the survivorship bias lies in the fact that we use future cash flows summed over up to three years as a dependent variable. This could introduce a bias in our results as bankrupt companies are not included in the long-term regressions, since they fail to generate future cash flows and are excluded as they lack the dependent variable. Such an occurrence would mean that the three-year regressions are overly optimistic in terms of positive future cash flows. However, we deem the risk of such a bias undermining our overall results to be small. We consider

a three-year time frame to be a relatively short time period. For example, Fairfield et al. (2009) applies a ten-year time frame where the risk of survivorship bias is decidedly greater.

Finally, a question that is always relevant for studies investigating a specific time period and a specific sample concerns generalisation. While setting out to analyse the effect of excluded items in times of crisis versus times of non-crisis, we have in reality only analysed and compared one crisis and one non-crisis period, opening up for debate regarding the validity of our findings for other crises. The reasoning for our choice to analyse only one recent crisis and non-crisis period is explained in the method section. While standing by this reasoning in that we firmly believe this is the appropriate approach for our purposes, we still acknowledge the accompanied limitations in terms of generalisation. We thus recommend that results should be interpreted with some conservatism regarding future crisis periods – especially if the nature of the future crisis differs materially from the nature of the studied financial crisis. Such conservatism is also advised concerning the companies for which our conclusions are valid. As our results are based solely on US companies, we cannot dismiss the possibility that results may differ for companies based in other countries and/or that apply different GAAP frameworks.

In sum, the main weaknesses of our study are deemed to lie within limited generalisation abilities based on the setup of the study. Other potential weaknesses assessed are deemed to have limited impact on the robustness of our findings.

7. SUMMARY AND CONCLUSIONS

For pro forma earnings to be useful for investors and analysts, the items that are excluded must be non-recurring in the sense that they do not have predictive values for future firm performance. The purpose of this study is to evaluate the possibility that the macroeconomic environment affects the future implications of items excluded from pro forma earnings on future cash flows. With a sample of US firms, we use linear regressions to investigate the influence of different types of exclusions' on future operating cash flows summed over one, two and three future years and conduct Z-tests to tests for differences between such impact before and during the financial crisis. We conduct two tests, the first test analyses all companies and the second test divides companies into subsamples based on core profitability ranking.

The results of the first test show that items excluded from pro forma earnings in fact do have an impact on future operating cash flows (except for income decreasing special items during the crisis scenario) and that the future implications of excluded items are different for the crisis and non-crisis scenario. Income increasing and income decreasing special items are reversing in the non-crisis scenario, while in the crisis such exclusions are continuing if expenses and transitory if gains. Income increasing and income decreasing other exclusions lead to continuing operating cash flows for both scenarios, while the impact is greater in the crisis scenario.

In the second test, we find that companies with the highest ranked core profitability drive the majority of the results in the first test, while we find no consistent statistically significant difference between the crisis and non-crisis scenario for exclusions made by low profitability companies. Results show that it is companies with high core profitability that make the majority of misclassifications of excluding non-transitory items from pro forma earnings, and these misclassifications increase during the financial crisis.

Our results are in line with prior research within the field of pro forma earnings in that the majority of excluded items do have future implications on future firm performance. Our findings show that differing macroeconomic circumstances is a potential contributing factor to the fact that previous studies has found that income increasing special items are associated with both positive and negative firm performance (specifically the findings of Cready et al. 2012 and Fairfield et al. 2009). We also shed new light on income decreasing special items by generating significant results for their impact on future firm performance and thereby contradicting prior research which has found them to be transitory (Cready et al. 2012; Fairfield et al. 2009). Furthermore we add to prior research and to the understanding of other exclusions by splitting them into income increasing and income decreasing items and show that income decreasing other exclusions are associated with future positive cash flows for both scenarios for both low and high core profitability companies, except for in the short run for high profitability companies in the non-crisis period. Finally, our results contradict those of Strobl (2009), who proposed that low-profitability firms should be more prone to earnings manipulation in times of economic expansion, but support the conclusions of Tilden and Janes (2012) that firms are more likely to manage earnings in times of crisis. We find that these results are driven by high profitability companies.

Our findings have implications for users of financial statements, especially analysts and investors. As findings show that there is value relevant information inherent in excluded items, exclusions should not be disregarded when performing financial statement analysis. In other words, analysts and investors should not follow companies' suggestions in what to exclude from their analysis. In making predictions of future cash flows, analysts and investors should analyse the future implications of different types of exclusions separately, take into account whether a company has high or low core profitability and, for high profitability companies, also take the macroeconomic environment into account.

Identified interesting topics for future research include an historical review of exclusions effect on future firm performance to test for the robustness of our results in terms of generalisation over time. Also, similar studies using a different sample of companies would be shed light on robustness in terms of generalisation for different markets and GAAP frameworks. Studying the implications of the exclusions constituents in a manually collected sample could add to the understanding of what specific exclusions drive the future implications for operating cash flows.

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APPENDIX A: Full Regression Results

Table A.1: Quarterly Regression of Future Operating Cash Flows on Excluded Items for the Non-Crisis and Crisis Scenarios

Regression Model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>			
INCINC_SPI	1.570**,++	2.587**,++	-3.257**,++
INCDEC_SPI	2.592**,++	5.675**,++	5.492**,++
INCINC_OTHEXCL	-1.113**,++	-3.647**,++	-7.535**,++
INCDEC_OTHEXCL	-0.731**,++	-2.397**,++	-8.239**,++
PRO_FORMA	1.757**,++	4.070**,++	7.082**,++
GROWTH	-0.005**,++	-0.010**,++	-0.008**,++
ACCRUALS	-0.075**,++	-0.851**,++	-4.033**,++
ACCRUALS_L3	0.110**,+	0.122**,++	-0.258**
SIZE	0.011**	0.018**,+	0.025**,++
BTM	-0.001	0.000++	0.000+
ATO	0.125**,++	0.316**,++	0.384**,++
MOMENT	0.069**,++	0.117**,++	0.166**,++
Intercept	-0.091**,++	-0.147**,++	-0.188**,++
N	38,026	25,045	14,523
Adj R ²	0.2806	0.3073	0.4015

<i>Scenario: Crisis</i>			
INCINC_SPI	-0.865**,++	-2.692**,++	-6.560**,++
INCDEC_SPI	-0.002++	-1.425++	-3.081++
INCINC_OTHEXCL	-1.694**,++	-6.319**,++	-14.343**,++
INCDEC_OTHEXCL	-2.068**,++	-5.760**,++	-15.779**,++
PRO_FORMA	1.836**,++	5.253**,++	12.290**,++
GROWTH	-0.002**,++	0.000++	0.006++
ACCRUALS	-0.993**,++	-3.480**,++	-7.610**,++
ACCRUALS_L3	0.054**,+	-0.244**,++	-0.238
SIZE	0.008**	0.010**,+	0.002++
BTM	0.000	-0.006**,++	-0.009+
ATO	0.041**,++	-0.124**,++	-0.774**,++
MOMENT	0.050**,++	0.051**,++	-0.054++
Intercept	-0.047**,++	0.014++	0.306**,++
N	21,163	18,821	17,084
Adj R ²	0.4117	0.3600	0.3363

*, ** indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.

+, ++ indicate 0.05 and 0.01 level significance, respectively, of the difference between the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) using a two-tailed Z-test.

Variable definitions are found in Table 3.

Table A.2: Quarterly Regression of Future Operating Cash Flows on Excluded Items for the Non-Crisis and Crisis Scenarios for Companies with the Highest Core Profitability Ranking

Regression model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	<i>Highest Core Profitability Ranking</i>		
	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>			
INCINC_SPI	6.079**,++	11.497**,++	-3.954**
INCDEC_SPI	3.366**,++	7.747**,++	4.577**,++
INCINC_OTHEXCL	-1.373**,++	-4.837**,++	-11.097**,++
INCDEC_OTHEXCL	0.818**,++	0.336**	-7.964**,++
PRO_FORMA	1.954**	4.583**,++	8.663**,++
GROWTH	-0.010**,++	-0.024**,++	-0.009
ACCRUALS	-0.036**	-0.804**,++	-5.800**,++
ACCRUALS_L3	0.070*	0.068**	-1.229**
SIZE	0.017**,+	0.026**,++	0.021*
BTM	-0.001**,+	-0.002**	-0.003*
ATO	0.175**,++	0.433**,++	0.374**,++
MOMENT	0.134**	0.209**,+	0.326**,++
Intercept	-0.201**,++	-0.311**,++	-0.349**,++
N	12,248	8,221	4,882
Adj R ²	0.3401	0.3735	0.4814
<i>Scenario: Crisis</i>			
INCINC_SPI	-0.883**,++	-2.872**,++	-5.691**
INCDEC_SPI	-1.192*,++	-4.546*,++	-15.214**,++
INCINC_OTHEXCL	-2.306**,++	-10.727**,++	-26.404**,++
INCDEC_OTHEXCL	-2.364**,++	-6.252**,++	-15.690**,++
PRO_FORMA	2.056**	6.590**,++	15.724**,++
GROWTH	-0.002**	-0.000**	0.009
ACCRUALS	-1.100**,++	-4.661**,++	-10.311**,++
ACCRUALS_L3	-0.026*	-0.924**,++	-0.796*
SIZE	0.008**,+	-0.003**	-0.004
BTM	-0.004**,+	-0.094**,++	-0.060*,+
ATO	-0.005**	-0.494**,++	-1.834**,++
MOMENT	0.098**	0.081*,+	-0.178**
Intercept	-0.078**,++	0.185**,++	0.672**,++
N	6,870	6,259	5,763
Adj R ²	0.472	0.4192	0.4009

*, ** indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.

+, ++ indicate 0.05 and 0.01 level significance, respectively, of the difference between the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) using a two-tailed Z-test.

Variable definitions are found in Table 3.

Table A.3: Quarterly Regression of Future Operating Cash Flows on Excluded Items for the Non-Crisis and Crisis Scenarios for Companies with the Middle Core Profitability Ranking

Regression model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	Mid Core Profitability Ranking		
	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>			
INCINC_SPI	-0.625**,++	-2.018**,++	-3.674**,++
INCDEC_SPI	-0.524**,+	-1.747**,+	-3.891**,++
INCINC_OTHEXCL	-1.001**,++	-1.949**	-3.832**,++
INCDEC_OTHEXCL	-0.890**,++	-2.045**,++	-4.347**,++
PRO_FORMA	0.889**	1.895**,++	3.736**,++
GROWTH	0.000+	0.002+	0.001+
ACCRUALS	-0.598**,++	-1.693**,++	-3.180**,++
ACCRUALS_L3	-0.084**,++	-0.101**	-0.267**,++
SIZE	0.007**	0.013**	0.015**,++
BTM	-0.001**,+	-0.006**,++	-0.014**
ATO	0.027**,++	0.029**	-0.001++
MOMENT	0.025**,++	0.057**,++	0.092**,++
Intercept	-0.008**,++	0.005	0.063**,++
N	13,810	9,260	5,438
Adj R ²	0.1081	0.1142	0.1025
<i>Scenario: Crisis</i>			
INCINC_SPI	-0.187*,++	0.192++	-0.505++
INCDEC_SPI	0.569+	1.764+	16.360**,++
INCINC_OTHEXCL	-0.451**,++	-1.835**	-5.997**,++
INCDEC_OTHEXCL	-0.209**,++	-0.920**,++	-18.201**,++
PRO_FORMA	0.872**	3.765**,++	18.559**,++
GROWTH	-0.002*,+	-0.004+	-0.010*,+
ACCRUALS	-0.340**,++	-0.968**,++	-1.988**,++
ACCRUALS_L3	-0.001++	0.004	0.150++
SIZE	0.006**	0.013**	0.000++
BTM	-0.000+	-0.000++	-0.011**
ATO	0.061**,++	0.062**	-0.146**,++
MOMENT	0.009**,++	0.006++	-0.108**,++
Intercept	0.011*,++	0.025	0.199**,++
N	7,609	6,948	6,316
Adj R ²	0.0906	0.1385	0.3389

*, ** indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.

+, ++ indicate 0.05 and 0.01 level significance, respectively, of the difference between the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) using a two-tailed Z-test.

Variable definitions are found in Table 3.

Table A.4: Quarterly Regression of Future Operating Cash Flows on Excluded Items for the Non-Crisis and Crisis Scenarios for Companies with the Lowest Core Profitability Ranking

Regression model: $Future\ OCF_{i,t} = \gamma_0 + \gamma_1 INCINC_SPI_{i,t} + \gamma_2 INCDEC_SPI_{i,t} + \gamma_3 INCINC_OTHEXCL_{i,t} + \gamma_4 INCDEC_OTHEXCL_{i,t} + \sum_{j=1}^8 \lambda_j CONTROLS_{j,i,t} + e_{i,t}$

	Lowest Core Profitability Ranking		
	OCF_SUM4	OCF_SUM8	OCF_SUM12
<i>Scenario: Non-Crisis</i>			
INCINC_SPI	-0.765**,+	-1.227**	-1.084*,,+
INCDEC_SPI	0.801 **,+	1.688**	5.060**,,+
INCINC_OTHEXCL	-0.957**	-2.491**,,+	-2.955**
INCDEC_OTHEXCL	-2.009**	-4.305**,+	-6.119**,,+
PRO_FORMA	1.296**,,+	2.990**	4.357**
GROWTH	-0.002**,+	-0.002++	-0.004
ACCRUALS	-0.403**,,+	-1.077**,,+	-1.179**,,+
ACCRUALS_L3	0.064 **,+	0.141**,,+	0.396**
SIZE	0.010**	0.016**	0.029**
BTM	-0.000	0.001	0.002
ATO	0.175**,,+	0.513**,,+	0.902**,,+
MOMENT	0.096 **,+	0.174 **,+	0.213**,+
Intercept	-0.131**,,+	-0.244**,,+	-0.359**,+
N	11,562	7,323	4,098
Adj R ²	0.337	0.362	0.315
<i>Scenario: Crisis</i>			
INCINC_SPI	-1.189**,,+	-1.687**	-2.590**,,+
INCDEC_SPI	-0.013++	0.970*	0.905++
INCINC_OTHEXCL	-1.048**	-1.554**,,+	-2.535**
INCDEC_OTHEXCL	-2.006**	-4.637**,+	-7.100**,,+
PRO_FORMA	-2.006**,,+	-4.637**	-7.100**
GROWTH	-0.003**,+	-0.006**,,+	-0.008**
ACCRUALS	-0.868**,,+	-1.429**,,+	-2.286**,,+
ACCRUALS_L3	0.145**,,+	0.257**,+	0.541**
SIZE	0.011**	0.022**	0.040**
BTM	0.001	0.004	0.004
ATO	0.112**,,+	0.302**,,+	0.427**,,+
MOMENT	0.058**,,+	0.093**,,+	0.140**,+
Intercept	-0.085**,,+	-0.163**,,+	-0.264**,+
N	6,411	5,377	4,785
Adj R ²	0.3321	0.4902	0.4744

*, ** indicate 0.05 and 0.01 levels significance, respectively, of the coefficient using a two-tailed T-test.

+, ++ indicate 0.05 and 0.01 level significance, respectively, of the difference between the coefficient and it's corresponding coefficient for the alternative scenario (crisis vs. non-crisis) using a two-tailed Z-test.

Variable definitions are found in Table 3.