Journal of Accounting and Public Policy xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Journal of Accounting and Public Policy

journal homepage: www.elsevier.com/locate/jaccpubpol

Full length article

Acquirers' earnings management ahead of stock-for-stock bids in 'hot' and 'cold' markets☆

Antonia Botsari[a,*], Geoff Meeks[b]

[a] Department of Banking & Financial Management, University of Piraeus, 80 Karaoli & Dimitriou Str., Piraeus 185 34, Greece
[b] Cambridge Judge Business School, University of Cambridge, Trumpington Str., Cambridge CB2 1AG, UK

ARTICLE INFO

Keywords:
Earnings management
M&A
Market sentiment
Abnormal returns

ABSTRACT

The accounting literature has found evidence that acquirers in stock-for-stock M&A have typically managed earnings upwards ahead of a bid. Other literatures have concluded that, when stock prices are high and rising, M&A is higher, more M&A is financed with stock, market sentiment and stockholders' perceptions of information appear to change, and in these circumstances new (arbitrage) motivations for M&A emerge. This paper revisits earnings management ahead of M&A in the light of these findings, comparing experience in 'hot' and 'cold' markets. It finds that such earnings management is more pronounced in hot markets; that only in such markets are positive discretionary accruals commonly associated with positive abnormal returns on the announcement of earnings; and that in such markets – against the expectations from signalling theory – these positive returns are not reversed on announcement of a stock-for-stock bid. The results suggest that the economic benefits achieved by engaging in earnings management during hot markets are indeed significant: in hot markets, we estimate that on average share acquirers engage in working capital accrual management equivalent to over a third of the average acquirer's return on total assets in that year; and that this earnings management is associated with increases in market value which are statistically and economically significant, enabling the bidder to secure control of the target with fewer shares.

1. Introduction

The accounting literature has found evidence for several countries that acquirers in stock-for-stock M&A manage earnings upwards ahead of a bid (Botsari and Meeks, 2008; Erickson and Wang, 1999; Gong et al., 2008; Higgins, 2013; Louis, 2004). A rationale for such behavior is that, if stock markets are only semi-strong efficient, inflated earnings may misinform the market, increasing the price of the bidder's stock – the currency of the deal. Income-increasing accrual manipulation in the period preceding the bid announcement may then achieve a more favorable exchange ratio for stock, and so secure the target's earnings more cheaply.

Other literatures have concluded that, when stock prices are high and rising, M&A is higher, more M&A is financed with stock, market sentiment and stockholders' perceptions of information appear to change, and in these circumstances new (arbitrage) motivations for M&A emerge.

Amel-Zadeh et al. (2016), Nelson (1959), and Scherer and Ross (1990) have charted the successive waves in M&A over the last century and their positive association with fluctuations in stock market prices. Fig. 1 illustrates the most recent two waves in the UK –

☆ The views expressed in this paper are the authors' and do not necessarily reflect those of the European Investment Fund.

* Corresponding author at: European Investment Fund - Research & Market Analysis, 37B Avenue J.F. Kennedy, L-2968, Luxembourg.
E-mail addresses: a.botsari@eif.org (A. Botsari), g.meeks@jbs.cam.ac.uk (G. Meeks).

https://doi.org/10.1016/j.jaccpubpol.2018.09.007

0278-4254/ © 2018 Elsevier Inc. All rights reserved.

Please cite this article as: Botsari, A., Journal of Accounting and Public Policy, https://doi.org/10.1016/j.jaccpubpol.2018.09.007

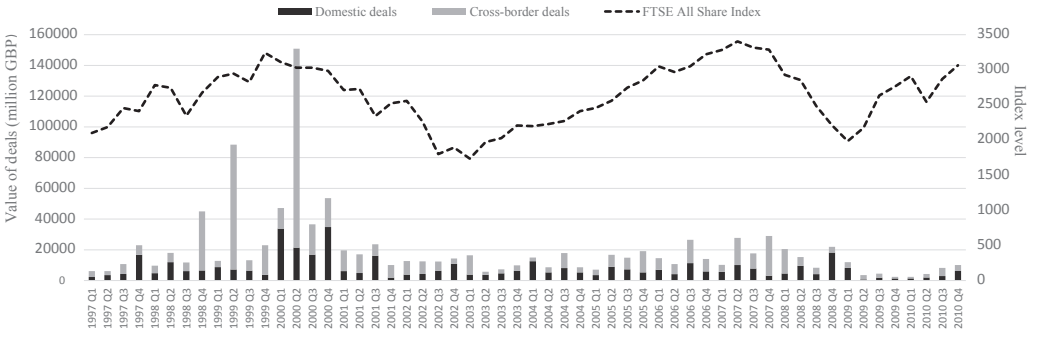

Fig. 1a. Value of M&A deals by UK companies. (Source: *UK Office for National Statistics* and own calculations).

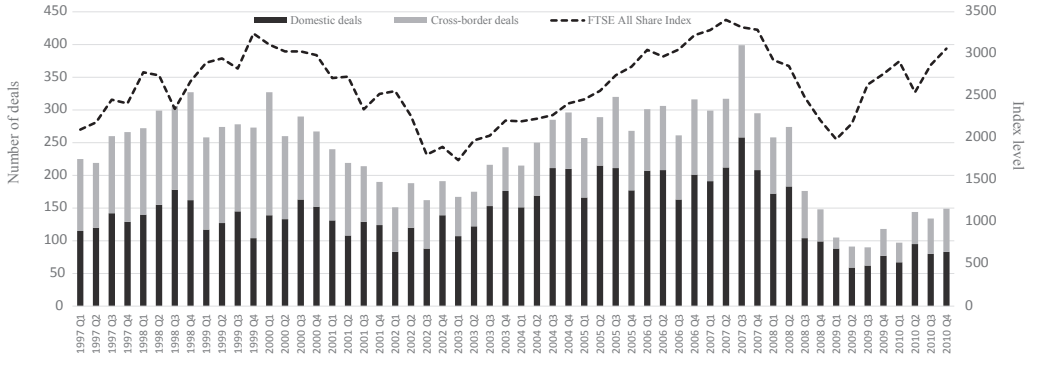

Fig. 1b. Number of M&A deals by UK companies. (Source*: UK Office for National Statistic*s and own calculations).

the focus of this paper. One takeover wave in the UK market peaked during the second quarter of 2000, when the value of announced deals (see Fig. 1a) in that quarter alone reached the record level of c. £151 billion, while the third quarter of 2000 saw a reduction of more than 75% (in the run-up to the former period, the FTSE All Share index soared to more than 3200, having increased by more than 55% since the beginning of 1997). The next merger wave developed in 2003 and reached its peak in terms of the number of announced deals (see Fig. 1b) during the third quarter of 2007, after which the number of transactions decreased by almost 30%.

Nelson's (1959) study found that stock-for-stock finance was heavily used to finance deals in merger waves. And, more recently, the acquisition wave which developed in the 1990s – the greatest takeover wave in history in terms of both size and geographical dispersion[1] – was characterized by the overwhelming use of stock as a means of payment (Andrade et al., 2001) and accompanied rising prices.

Shiller (most recently 2015) has contributed a series of studies on 'irrational exuberance', showing that the fluctuations in stock market prices are much greater than is warranted by the variation in subsequent real dividends which they are expected to reflect: investors' perceptions of information relating to stock price are distorted in 'hot' markets – stocks are temporarily mis-valued. And Shleifer and Vishny (2003) develop their theory of acquisition for these circumstances: in this theory, M&A can be seen as a form of arbitrage by rational managers operating in markets which are not strong-form efficient. Bidders use their own temporarily inflated stock as currency even if the target's stock is – in a 'hot' market – also overvalued: "acquisitions are made by overvalued acquirers of relatively less overvalued targets" (p.305).

In these circumstances, Shleifer and Vishny (2003) point also to "a powerful incentive for firms to get their equity overvalued, so that they can make acquisitions with stock" (p.309). In this case, acquirers do not just exploit arbitrage opportunities: they can create additional opportunities via earnings management.

This paper explores possible interlinkages between over-pricing, earnings management, merger and means of payment in different phases of the stock market and merger cycles. We analyze experience in periods of rising stock prices and vigorous merger activity (1997–2000, 2003–2007) in comparison with periods (2000–2002, 2007–2010) in which stock prices were lower and M&A activity fell sharply.

We analyze UK acquirers. The London Stock Exchange represents the world's second largest takeover market. The UK accounts for the large majority of European deals (Faccio and Masulis, 2005), while the European market is of similar size to that in the US (Martynova and Renneboog, 2008). During the period under investigation, the UK exhibited the most intense acquisition activity world-wide, with UK acquirers accounting on average for approximately 16% of the global value of cross-border acquisitions (UNCTAD, 2015). Fig. 1 charts the waves of London M&A volumes and values, as well as of stock prices, in the period we study.

[1] Total M&A transaction value of $3.6 trillion in 1997–2000 alone just for the US (Dong et al., 2006).

The paper's hypotheses and empirical design differ from those of other studies that have analyzed earnings management ahead of M&A for the US market. For example, Louis (2004) focuses on providing an explanation for the post-merger underperformance anomaly and finds that the reversal of the effects of pre-merger earnings management is a significant determinant of the long-run negative performance of stock-for-stock acquirers.

More recently, Gong et al. (2008) study the association between stock-for-stock acquirers' pre-merger abnormal accruals and post-merger announcement lawsuits and find that the long-term market underperformance of stock-for-stock acquirers is largely limited to litigated acquisitions. In the UK case, institutional arrangements differ from those in the US, and in our sample period litigation by target shareholders was rarely, if ever, observed. Class/collective actions have only been allowed since 2015, after our study period (Ashurst, 2017); and even then, because in the UK investors have to opt into an action, rather than opt out as in the US, fewer investors join an action and such litigation is less effective (Section 2 discusses our research on alternative recourse for disaffected shareholders of target firms).

Hence, while the aforementioned US studies emphasize the post-merger consequences of earnings management and/or address issues that may not be as relevant for UK acquirers, the current study intends to analyze the incentives for earnings management in the first place and the reasons for which market participants can or cannot factor and undo the stock price effects of earnings management.

In particular, the paper addresses three related research questions. First, it tests empirically the suggestion from the stock-market-driven-acquisitions literature that earnings management is expected to be more pronounced during booming ('hot') stock market and merger-wave phases, when the incentives to take advantage of the overall market conditions are more intense. We find that earnings management ahead of stock-for-stock bids is indeed largely associated with phases of high market valuation and rates of M&A.

Second, it responds to the criticisms in Fields et al. (2001) and Walker (2013) that the results of prior studies of earnings management ahead of share bids are 'unconvincing', exactly because they do not test whether accrual manipulation had the intended impact on the acquirer's share price. In the present study, we specifically address the issue of market reaction around the acquirers' earnings-release date, and how this reaction relates to bidders' earnings management behavior.

Therefore, apart from examining the extent to which high stock prices can affect the acquirers' propensity to manage earnings upwards ahead of stock-for-stock M&A, we further test a related hypothesis and find that the ability of market participants to 'see through' and 'reverse out' the effects of earnings management depends on the prevailing market conditions. We find evidence that in hot markets positive discretionary accruals are associated with positive abnormal returns for stock-for-stock acquirers – with share prices being inflated in the period preceding the bid announcement. But we do not find this association in phases of low M&A activity.

The third question follows the literature initiated by Myers and Majluf (1984), highlighting the different signalling implications associated with the method of payment chosen to perform an acquisition – i.e. a share offer signals to the market that the bidding firm believes its own stock to be overvalued. Therefore, if investors can be misled by earnings management in the pre-bid period, the question arises whether there is any evidence of correction of this prior mispricing at bid announcement, when investors might (according to the signalling theory) be alerted to these acquirers' pre-existing overvaluation. The findings of the paper are consistent with the earlier conclusion that the market reaction to the announcement of a share bid depends on whether the latter takes place during a phase of high or low M&A activity. Inflated prices tend not to be corrected in hot markets.

The paper's main contribution, then, is to introduce market-wide developments into the analysis of earnings management ahead of stock-for-stock M&A. Just as Shleifer and Vishny (2003) argue that executives take advantage of temporary overvaluation of their stock in a hot market to make acquisitions on favorable terms, so also we find that executives in hot markets tend more often to manage earnings upwards in advance of a stock-for-stock bid. Such markets tend not to 'see through' such earnings management, and bidders are, on average, rewarded with a higher share price, reducing the cost of an acquisition.

Indeed, the paper's findings suggest that share acquirers engaging more aggressively in earnings management benefit from a relative increase in market value by almost 2.4% on average, enabling them to issue fewer (higher-priced) shares to target shareholders to achieve a given cash-equivalent consideration. In turn, other things equal, each one percent reduction in new shares issued would add approximately 0.3 percent to the amalgamation's EPS, cushioning the post-merger earnings dilution. The economic benefits achieved by engaging in earnings management during hot markets are further reinforced by the evidence that in such hot markets, the higher share price is not typically corrected in response to the signal embodied in a bid announcement.

The remainder of the paper is organized as follows: Section 2 discusses earnings management in the context of the market efficiency theory; Section 3 presents the literature review and sets the hypotheses to be tested; Section 4 describes the sample and the research design adopted in the paper; Section 5 presents and discusses the empirical findings; while Section 6 concludes.

2. Market efficiency, earnings management devices and their detection

For the executives of an acquirer the potential benefit of an earnings management device is achieved if it fools shareholders; and the potential cost arises if it is detected and punished. The benefits can be achieved and the costs avoided if markets are no more than semi-strong efficient; if the device is opaque; and if it is compliant with corporate law and accounting regulations.

If stock markets were strong-form efficient in Fama's (1970) categories – share prices reflecting all available information, whether public or inside – then earnings management and other creative accounting devices such as off balance sheet financing should have no impact on share prices.[2] If the markets were semi-strong efficient – share prices reflecting all publicly available information (the

[2] Except insofar as the creative accounting triggered cash flows through contracting – for example a bonus to an executive which reduced earnings (Watts and Zimmerman, 1986). But such effects are likely not to be material for most large companies.

common view in the academic literature (Beaver, 1989)) – and a device was transparent, then investors (or their agents) would be able to 'see through' and 'reverse out' the impact of creative accounting on earnings, and share prices would behave as if the earnings management had not occurred. For example, the UK airports operator BAA increased the estimated lifetime of its terminals from 16 to 50 years and its runways from 23 to 100 years (Smith, 1996), thereby reducing the depreciation charge and increasing reported earnings. But as Archibald (1972) and Comiskey (1971) long ago reported, the response of stock market prices to such adjustments suggests that the market sees through and reverses out such changes.[3] These devices are transparent and compliant, but – in a semi-strong efficient market – inconsequential for share prices.

At the opposite end of the spectrum are opaque, illegal devices which deceive investors, distort share prices and lead to court convictions. An extreme example built around an M&A programme, where earnings management was undetected for two decades, is provided by the Japanese company Olympus (see Olympus Corporation, 2011). Olympus executives had embarked on speculative investments which by 1990 had accumulated losses of some 100 billion yen. At that time these losses were not disclosed in the company's financial statements, because the assets concerned were recorded at cost, consistent with the prevailing accounting conventions.

To avoid disclosure of the latent losses, an elaborate device was created. Off balance sheet vehicles were created (in offshore jurisdictions) to buy these eroded speculative assets from the company – at cost. So no loss was recognized in the company's books. In due course a device was needed to deal with the latent losses embedded in the off balance sheet vehicles, and to repay the banks which had financed them. So the vehicles acquired companies at fair value which were then in turn taken over by Olympus, *at inflated prices*. The inflated prices generated surpluses in the off balance sheet vehicles which allowed these vehicles to repay the loans with which they were financed.

The overvaluations of the acquisitions were eventually corrected by impairment charges against purchased goodwill – charges of 55 billion yen in 2009 alone. To summarize then, speculative losses were concealed when they were incurred in the 1980s, and metamorphosed into impairment charges (resulting in reduced earnings and share prices) some 20 years later. Executives were variously shamed, fired, and convicted of fraud.

It is likely that the majority of earnings management falls between these poles of transparent, legal and ineffective, on the one hand, and opaque, illegal and deceptive, on the other. As Griffiths (1986) comments on "creative accounting", his term for the manipulation of accounts by earnings management, off balance sheet accounting, etc.: "the hallmark of [effective] creative accounting is that it does not involve fraud". The opportunities for legal and effective earnings management arise particularly in areas where insider executives, in daily contact with markets and trading partners, enjoy an information advantage over outsiders, even including auditors, and have to exercise judgement. Then, if or when the estimates are not confirmed by subsequent outcomes, it may not be possible to discriminate between unanticipated external developments outside the executives' control, on the one hand, and intentional bias – deceit – in the executives' estimates, on the other. As Dechow et al. (2011) argue, "the more assets on the balance sheet that are subject to changes in assumptions and forecasts, the greater the manager's flexibility to manage short-term earnings" (p.19).

Working capital accruals, a focus of this paper, offer many opportunities for opaque but compliant manipulation of earnings which can be expected to distort share prices in a semi-strong efficient market. In relation to receivables, Sherman et al. (2003) give several examples of companies using opaque devices which bring forward or front-load earnings. In one of these, Coca Cola used a 'channel stuffing' device: they persuaded local bottler-franchisees to take delivery of concentrate, ahead of when it was needed, achieving the bottlers' cooperation by paying the storage costs and deferring the payment date until the time when the product would normally have been delivered. The shipment would be included in Coca Cola's sales and would swell its profit in the earlier period. In both cases, a sale has been made to an independent party and the receivable is not doubtful; so it would be hard for an auditor to challenge the transaction, or for an outsider to recognize the sleight of hand. In the ordinary course of business, such a distortion would reverse in a subsequent period. But the illusory earnings increase would mislead the market and alter the deal terms if a share-for-share acquisition was completed before the reversal.

Similar difficulties of verification arise with inventory valuation. Cisco reported an inventory write-off of $2.25 bn in 2001; but in 2002 generated revenue of $290 m from the sale of written-off inventory. In this case, earnings had been deferred rather than brought forward: on one interpretation, a 'cookie jar' was created, available to boost earnings in a future year. The case illustrates the difficulty of detecting distortion of earnings when an asset's value is hard for outsiders to assess.

Distortions not evident to the auditors may sometimes be revealed by people with inside information. After our study period, one of the acquirers in our sample, Tesco, was accused by the UK Groceries Code Adjudicator of understating payables, having unilaterally withheld full payment to suppliers (Ram, 2016; Vandevelde and Thomas, 2016). In this case, Tesco faced no financial penalty as the misconduct predated the Adjudicator's power to impose fines.

Then a whistle-blower from inside Tesco led to the company being accused by the Financial Conduct Authority of improper overstatement of receivables in the form of rebates expected from suppliers, thereby inflating profit by 326 million pounds (Felsted and Agnew, 2014). Tesco paid 215 million pounds in a fine, and compensation to investors who had been misled. However, Tesco used a "Deferred Prosecution Agreement (DPA)", which does not require an admission of wrongdoing. It was also a whistle-blower – an insider – who had revealed the deceit at Olympus (above).

The information asymmetry which limits the ability of auditors to identify earnings management also inhibits scrutiny by other

[3] With a qualification if the change in depreciation schedule reflected reliable unexpected new scientific data on the durability of runways and terminals rather than accounting flummery.

outsiders. We outside academic observers cannot impute deliberate, deceitful earnings management by a particular individual firm in our sample just because the discretionary accruals we have estimated with the usual models are abnormal. The accruals might deviate from normal for many reasons other than earnings management (e.g., a change in payment terms agreed with suppliers or customers, unexpected obsolescence of inventory). Averaging over a substantial sample, the statistical approach can identify a tendency, with idiosyncratic deviations cancelling out – sufficient for our purpose but not for definite identification of individual earnings management. In Schipper's (1989) words as to why researchers are able to observe earnings management while users of the managed earnings cannot: "a researcher using large historical data sets might be able to document statistically a pattern of behavior consistent with earnings management within the sample, without being able to say with confidence whether earnings were managed for any particular firm in the sample" (p. 97).

If allegations of defects in published accounts are made in the UK, they are investigated by the regulator, the Financial Reporting Council. Its Conduct Committee reviews the accounts, and where defects are found, a report is issued (an "Entity Specific Public Announcement"), typically associated with a restatement of the accounts agreed by the directors. We reviewed all the 53 Announcements by the Conduct Committee for the period of this study and two years after (Financial Reporting Council, 2017). None of the acquiring companies in our sample – to whom we have imputed earnings management on average – was among those investigated by the FRC as suspected of defective accounting. As Dechow et al. (2011) note for the comparable US context, "there are likely many cases where a misstatement goes undetected or is at least not subject to an SEC enforcement action" (p.77).

Perhaps the richest information on earnings management comes from bankruptcy administrators. Bankruptcy brings intense external scrutiny which often uncovers egregious earnings management. In the area of M&A, Mulford and Comiskey (2005) report that the serial acquirer and subsequent massive bankrupt, WorldCom, created business combination reserves that had been "overstated" and "which it could then reverse, as needed, to provide a boost to earnings" (p.422). In a comparable UK case, Coloroll included in its reorganization provision the equivalent of a full year's profit for the acquirer or 12 years' profit for the target, sufficient to sustain healthy reported earnings when it was actually about to fail.[4] In each case the reserve or provision was transparent, but only insiders could judge whether the quantum was appropriate.

The UK Takeover Code rules require the Board of a public company target to take independent financial advice on whether the proposed acquisition terms are fair and reasonable. We have consulted investment bankers and auditors over whether this would involve a review of the acquirer's historic financial statements to identify past earnings management which could distort perceptions of the bid terms. We understand that the investment bank advising on a deal will prepare a valuation analysis (using a wide range of techniques from public company comparables to DCF). This is largely a forward looking analysis which relies on future expectations. The transaction document will say that the investment bank adviser "relied on the commercial assessments of the Board".

One senior M&A specialist from a leading investment bank commented to us:

"Some accounting adjustments [to historic financials] may be considered, for example, if the target has an approach to capitalization/depreciation [different from] industry standards. In such a scenario adjustment might be made to the forecasts to allow comparisons against peers…historical information is [already] audited and therefore any adjustments are to aid comparison **not to question the validity of reported financials**." [our emphasis and parentheses].

The detection mechanisms are not, therefore, robust in a semi-strong efficient market against earnings management devices which are opaque. And if the devices are compliant with corporate law and accounting regulations, managers may well escape censure even if the devices are later discovered. Crucially for our analysis, if such devices are discovered after an acquisition has been completed on distorted terms, the business combination cannot be undone (and a substantial deal creates so much change in the acquirer's accounts that a reversal of previous earnings distortion may be untraceable).

In a stock market and merger boom, when price-earnings ratios are inflated, the incentives to manage earnings are higher and key participants are likely to be less inclined than normal to try to detect and challenge inflated earnings: they stand to gain from the temporary overvaluation of their stake in the merging companies, and confirmation bias is to be expected in the scrutiny of deals. The acquirer shareholders hope to buy the other company on favorable terms – with inflated currency (their own shares); the acquirer executives, who drive the deals, mostly gain from M&A even where the deal does not benefit their shareholders (Harford and Li, 2007); the target shareholders benefit from a temporary overvaluation of acquirer's shares received in exchange, in addition to the customary premium; the target managers are often offered beneficial packages by the bidder (Hartzell et al., 2004). Investment bankers benefit from hefty fees once bids are approved[5]; and work related to M&A provides a substantial profitable income stream for the audit industry (Massoudi, 2016).

3. Literature review and hypothesis development

3.1. Earnings management, stock-for-stock M&A and 'hot' markets

A number of studies for a range of countries provide evidence that bidders employ income-increasing accrual management

[4] See also Schilit and Perler's (2010) discussion of Symbol Technologies' creation of reserves of some $186 m for restructuring in connection with its acquisition of Texlon Corporation: these included "fictitious costs that were used to create cookie jar reserves to help inflate earnings in future periods" (p.186).

[5] See the unflattering discussion of the due diligence of an investment bank in the acquisition of ABN AMRO by RBS in Treasury Committee (2012). The advisors received a 9-figure fee. The acquirer collapsed shortly after the deal: the biggest corporate loss in UK history.

practices prior to the announcement of stock-for-stock acquisitions (Botsari and Meeks, 2008; Erickson and Wang, 1999; Gong et al., 2008; Higgins, 2013; Louis, 2004). The implicit rationale for this behavior is that, if markets are only semi-strong efficient in Fama's (1970) terms, opaque earnings management may inflate stock prices, securing a more favorable exchange ratio for the stocks swapped in the acquisition.

The Introduction above points to the substantial historical evidence that mergers come in waves, accompanying stock market booms (Nelson, 1959; Scherer and Ross, 1990), that in such waves stock-for-stock financing is heavily used (Andrade et al., 2001), and that such waves are characterized by irrational exuberance on the part of investors (Shiller, 2015). Shleifer and Vishny (2003) develop their theory of acquisition for these circumstances: in this theory, M&A can be seen as a form of arbitrage by rational managers operating in markets which are not strong-form efficient. Bidders use their own inflated stock as currency even if the target's stock is – in a 'hot' market – also overvalued.

In these circumstances, Shleifer and Vishny (2003) point also to incentives for bidders to manage their earnings upwards in order to raise the value of their stock. In this case, acquirers do not just exploit arbitrage opportunities: they create additional opportunities via earnings management. In a similar vein, Jensen (2005) and Kothari et al. (2008) argue that managers of overvalued firms, faced with the prospect of disappointing the capital markets when the overvaluation is eventually eliminated (what Jensen defines as the 'agency costs of overvalued equity'), have an incentive to resist market correction and proactively prolong the overvaluation. Among the actions taken to meet the market's optimistic performance expectations, earnings management and acquisitions paid for with stock are expected to feature prominently. In this case too, equity is used by managers as cheap currency to make acquisitions and provide the illusion of growth, thereby deceiving the market into believing that management is going to create the value that the market expects.

Our first test therefore asks whether upward management of earnings by acquirers is more prevalent in 'hot' markets.

3.2. Earnings management and earnings-announcement returns

For earnings management by share acquirers to influence behavior, it must map into positive abnormal market returns in the period preceding the announcement of the deal. Fields et al. (2001) and Walker (2013) have criticized the results of prior studies of earnings management in the context of share-swap acquisitions as being of limited economic significance, on the grounds that they do not test whether earnings management had the intended impact on the acquirers' share price.

The seminal work of Sloan (1996) on the 'accrual anomaly' suggests that investors 'fixate' on earnings, and posits that investors underestimate the lower persistence of the accrual component of earnings figures and tend to overprice stocks in which the accrual component is high. In a contemporaneous study, Subramanyam (1996) documents that the market, on average, attaches value to the discretionary component of accruals.

As Walker (2013) notes, a key issue in this literature is whether the accrual anomaly can be attributed to earnings management. To the extent that abnormal accruals are driven by manipulation, the evidence would suggest that opportunistic and value-irrelevant accruals are mispriced by market participants who in this way seem to reward firms for engaging in earnings management (Houge and Loughran, 2000; Xie, 2001). DeFond and Park's (2001) findings that the market under-anticipates the reversing implications of abnormal accruals are also consistent with this notion, i.e. that market participants, having limited or no information to adjust away the effect of accrual changes, can adjust only partially for suspected earnings management.

These results suggest that abnormal market returns can be earned by implementing a fairly straightforward strategy of earnings management. The accrual anomaly therefore highlights an important incentive for managers to engage in earnings management, given that the evidence reveals that earnings manipulation can have real economic effects – managers can potentially influence stock prices by choosing alternative accounting methods (Zach, 2003).

Basu et al. (2013) provide evidence that the period around the earnings-announcement days accounts for a larger proportion of the variation in annual returns than any other corporate announcement. Similarly, Young (2008), in a share-swap acquisition setting, predicts that a large fraction of the acquirers' long-run pre-bid returns is expected to concentrate at the point when earnings information is released to the market; while Rangan (1998), in a seasoned equity offering context, reports that earnings-announcement returns account for a disproportionate share of annual performance.

In light of this prior evidence, our second test asks whether income-increasing accrual behavior enables prospective share acquirers to inflate their share price, i.e. whether it is positively associated with abnormal stock returns at earnings announcement; and whether investors' reaction to the announced earnings differs according to whether this announcement takes place during phases of high or low M&A activity.

3.3. Earnings management and bid-announcement returns

Previous theoretical studies (e.g., Myers and Majluf, 1984) examining the implications of the means of payment chosen to perform an acquisition have highlighted the role of information asymmetries between insiders and outside investors regarding the true value of the firm, and show that with asymmetric information, managers with superior information about their own firm have an incentive to issue overvalued equity. This is because common stock used in M&A performs a 'contingency pricing effect' (Hansen, 1987) forcing target shareholders to share the risk that the acquirer may have overpaid (Martin, 1996).

If the method of payment is regarded as a reflection of the acquiring managers' views of the stand-alone value of their own company (Draper and Paudyal, 1999), then a stock offer may also carry an 'information effect' (Suk and Sung, 1997), signalling to the market that the bidding firm believes its own stock to be overvalued, or is uncertain as to the potential synergies arising from the

merger. Under this signalling theory, a share bid alerts investors to pre-existing mispricing and therefore causes a share price reaction to correct misvaluation. Empirical findings dating back to Travlos (1987) indeed reveal significant losses for shareholders of share-exchange bidding firms.

The arguments developed in Section 3.2 predict that market participants could be misled by the accrual distortions employed by share acquirers prior to the announcement of a bid. Hence, as an extension to the accrual mispricing and earnings management arguments, we finally ask whether the attention drawn to the firms involved when a deal announcement takes place helps investors correct prior misvaluation or not.

Therefore, we analyze abnormal returns around the announcement of a takeover proposal in order to examine whether market reaction to the announced bid impounds the accrual manipulation and whether this reaction differs according to whether the announcement takes place during phases of high or low M&A activity.

4. Data and methodology

4.1. Sample selection and descriptive statistics

The study analyzes M&A transactions that were announced and completed by UK acquirers between January 1, 1997 and December 31, 2010. Sample transactions were selected on the basis of the following criteria:

(1) The acquirer is (or was at the time of the acquisition) a UK company listed on the London Stock Exchange.
(2) The acquirer is a non-financial, non-utility company.
(3) The bidder acquired a majority interest in the target company or ended up holding a majority interest as a result of the deal.
(4) The transaction was completed in the form of a pure share exchange (following prior studies of earnings management ahead of M&A, cases of mixed payment are excluded).
(5) In order to ensure a material effect of the deal on the acquirer, the total consideration value must be at least 5% of the acquiring firm's market value as at the end of the month immediately preceding the deal announcement.
(6) An announcement date for the deal, distinct from its completion date, could be identified.
(7) Sufficient accounting data were available in order to estimate discretionary accruals (the proxy for earnings management); while in order to compute earnings- and bid-announcement returns, stock market data had to be available for the year preceding the announcement of the deal.

The above selection process resulted in identifying 113 purely share-financed deals.[6] The size of the final sample is comparable to that of prior studies of earnings management in stock-financed acquisitions. For example, Botsari and Meeks (2008), Erickson and Wang (1999) and Higgins (2013) analyze 42, 55 and 125 share-swap deals in the UK, US and Japanese takeover market, respectively. As Higgins (2013) notes, the advantage of a sample of this size is that statistical significance – if found, is not merely due to a large number of observations.

The sample transactions were drawn from the Thomson Financial *Acquisitions Monthly* magazine and from the Thomson Financial One Banker M&A database, which provided the required information regarding the dates, the terms and other details of the deals. Where necessary, these were cross-checked with the *Regulatory News Service* of the London Stock Exchange. All accounting and market-related data are from Datastream/Worldscope.

As discussed in the hypothesis development section, prior literature highlights distinct motives for share and cash offers, and forms different predictions regarding the earnings management behavior as well as the short-term market performance of share and cash bidders. Therefore, a control group of cash acquirers was also constructed according to the following procedure: the cash acquirer belongs to the same industry (two-digit SIC code) as the share acquirer; as at the end of the financial year immediately preceding the announcement of the deal, the cash acquirer has a market value between 50% and 200% of the market value of the share acquirer; out of this pool of potential cash control firms, the one with the closest Price-to-Book ratio to the share acquirer was selected. This procedure was intended to alleviate the impact of size and growth characteristics on earnings management and return estimates, and therefore highlight the means of financing an acquisition as the driver of any discrepancies found between the two subsamples. Table 1 provides the related descriptive statistics.

On the basis of the discussion in the Introduction and Fig. 1, the sample period is divided into two distinct phases: the phase of high M&A activity (ranging from 1997 to the second quarter of 2000, and from 2003 to the third quarter of 2007) and the phase of low M&A activity (ranging from the third quarter of 2000 to 2002, and from the fourth quarter of 2007 to 2010).

[6] From the initial pool of acquirers, 45 had to be excluded due to lack of data availability for the year prior to the offer announcement; eight had fewer than six observations in the corresponding industry portfolio (necessary to estimate the earnings management proxy in Eq. (1)); and four had accrual figures in excess of one (Louis, 2004; Kothari et al., 2005). Finally, 13 firms were excluded due to the fact that the acquisition year coincided with the first time adoption of IFRS, which could confound the results of accrual tests. The median consideration value of all excluded transactions is approximately 10 million pounds, suggesting that these transactions refer to relatively small deals and that the transactions that have been included in the final sample (with median consideration value of approximately 59 million pounds) are of greater economic significance and capture the vast majority of the M&A activity in the UK in terms of deal value.

Table 1
Descriptive statistics.

	High M&A Activity Phase *(N = 155)*			Low M&A Activity Phase *(N = 71)*		
	Share Acquirers *(N = 85)*	Cash Acquirers *(N = 70)*	*p-value* for the difference	Share Acquirers *(N = 28)*	Cash Acquirers *(N = 43)*	*p-value* for the difference
Turnover (£m)	851.12	1483.21	**0.0907**	1298.75	2083.14	0.2629
Net income (£m)	76.30	95.78	0.3313	44.46	286.32	**0.0418**
CFO (£m)	112.52	120.01	0.4428	108.69	302.93	0.1014
Total assets (£m)	947.48	1247.92	0.2357	1345.59	3073.61	0.1236
MV (£m)	1434.07	1258.36	0.3444	1408.95	2013.30	0.2768
ROA (%)	7.00	10.56	**0.0488**	3.65	8.73	**0.0012**
Sales growth (%)	23.55	20.55	0.3120	18.94	11.78	0.2147
PTB ratio	4.99	3.82	0.2095	3.33	3.84	0.2662
Overvaluation (%)	29.01	21.49	**0.0536**	28.10	29.84	0.4392
Deal value (£m)	620.24	258.30	**0.0066**	341.24	195.82	0.1541
Premium (%)	26.68	33.10	0.1837	39.76	42.43	0.4550
Days to announcement	158.89	163.31	0.3995	182.11	134.86	**0.0327**
Days to completion	78.29	50.37	**0.0009**	79.50	58.93	0.1091
Domestic deals	64	39		15	18	
Public targets	65	23		19	5	
Industry-related deals	68	55		24	34	
Hostile deals	4	1		1	0	
Contested deals	6	1		0	0	

The reported figures represent the mean values for the corresponding variables. All accounting variables are computed as at the end of the financial year immediately preceding the announcement of a deal. Tests for the differences are based on *t*-tests and significant results are marked in bold. Turnover, Net income, CFO, Total assets and Market Value are the acquirers' net sales (*WC01001*), net income before extraordinary items (*WC01551*), cash flow from operations (*WC04860*), total assets (*WC02999*) and market capitalization (*MV*) respectively. Return on Assets (ROA) is computed as Earnings Before Interest and Tax (*WC18191*) over the average of opening and closing Total Assets (*WC02999*). Sales growth is the percentage change in net sales (*WC01001*). PTB is the Price-to-Book ratio, defined as the market value (*MV*) of common equity of the acquirer over the book value of common equity (*WC03501*). Overvaluation is measured relatively to each sample firm *i*'s industry *j* Price-to-Book ratio, i.e. (PTB*it*-PTB*jt*)/PTB*it*. Deal value is the total consideration paid for the target company. Premium is the percentage premium paid by the acquirer with respect to the target's share price four weeks before the deal announcement (it applies to public targets only). Days to announcement measures the time lapse between the most recent annual report release date and the deal-announcement date. Days to completion measures the time lapse between the announcement date and the completion date of a deal (i.e. the date when the deal is declared unconditional). A domestic deal is one where the target (whether publicly traded or privately owned) is based in the UK. An industry-related deal is one where the acquirer and the target belong to the same two-digit SIC code. A hostile deal is one where the target company opposes the acquirer's approach. A contested deal is one where a rival bidder is involved in the process of the negotiations.

4.2. Estimating discretionary accruals

Following prior studies of earnings management in an M&A context (e.g., Botsari and Meeks, 2008; Louis, 2004), earnings management is proxied by performance-matched (Kothari et al., 2005) discretionary working capital accruals estimated from the cross-sectional modified-Jones model (Dechow et al., 1995; following Jones, 1991), involving a two-stage estimation process. In the first stage, Eq. (1) is estimated using all non-acquiring firms with available data in the same industry portfolio (two-digit SIC code) as the acquirer:

$$WCA_{ijt}/A_{ijt-1} = \alpha_{jt} + \beta_{jt}(\Delta REV_{ijt}/A_{ijt-1}) + \varepsilon_{ijt} \quad (1)$$

where:

WCA_{ijt} = working capital accruals for estimation portfolio j for firm i in event year t (computed directly from the cash flow statement (Hribar and Collins, 2002) rather than from successive balance sheet changes); ΔREV_{ijt} = change in revenue (total sales) for estimation portfolio j for firm i in event year t; A_{ijt-1} = beginning of period total assets for estimation portfolio j for firm i in event year t; ε_{ijt} = error term for estimation portfolio j for firm i in event year t; $i = 1,\ldots,N$ firm index; $j = 1,\ldots,J$ estimation portfolio index; $t = 1,\ldots,T$ year index.

In the second stage, the industry/event year specific parameter estimates obtained from Eq. (1) are combined with acquiring firm specific data in Eq. (2) to produce estimated discretionary working capital accruals (EDWCA):

$$EDWCA_{it} = WCA_{it}/A_{it-1} - [a_{jt} + b_{jt}(\Delta REV_{it}/A_{it-1} - \Delta REC_{it}/A_{it-1})] \quad (2)$$

where ΔREC_{it} is the change in accounts receivable for firm i in event year t.

Finally, ROA-adjusted EDWCA are obtained on the basis of the following procedure: for each event year/industry combination, four portfolios are created by sorting firms into quartiles of current year's return on assets; in the performance-matched modified-Jones model, the abnormal accrual for each sample company is then defined as the estimated discretionary accrual obtained from the

ARTICLE IN PRESS

modified-Jones model (Eq. (2)) minus the median estimated discretionary accrual of the matched portfolio.[7]

4.3. Analyzing earnings-announcement returns

For each acquirer i and for each day t, the abnormal return AR_{it} is calculated as:

$$AR_{it} = R_{it} - E(R_{it}) \tag{3}$$

where:

R_{it} = the actual return of sample company i at day t
$E(R_{it})$ = the expected return of sample company i at day t. Following prior research on earnings-related anomalies (Ball and Bartov, 1996; Bernard and Thomas, 1990; Dechow et al., 2008; Sloan, 1996 for the US; Hew et al., 1996 for the UK), the expected return is a size-adjusted return, i.e. in this case, the equally-weighted return for all firms in sample firm i's size-matched decile on day t.[8]

The average abnormal return $\overline{AR}_t$ for each day t in the sample is then computed as:

$$\overline{AR}_t = \frac{1}{N_t} \sum_{i=1}^{N_t} AR_{it} \tag{4}$$

where N is the number of firms whose abnormal return AR_{it} is available at day t.

Finally, the average abnormal return is cumulated over longer intervals during the event window to calculate the Cumulative Average Abnormal Return CAR_t:

$$CAR_t = \overline{AR}_t + CAR_{t-1} \tag{5}$$

Tests of the CAR_t over multiday intervals surrounding the event date (i.e. the earnings-release date, as the latter was obtained from the *Regulatory News Service* of the London Stock Exchange) are based on the t-statistic in Brown and Warner (1985, section 3.3).

As highlighted in the review of the relevant literature, the magnitude of discretionary accruals exhibited by acquirers in the pre-bid period varies and crucially depends on the method of payment (shares vs. cash) chosen to finance the acquisition. As a result, it is reasonable to expect the impact of discretionary accruals on the acquirers' pre-bid earnings-announcement returns to also vary according to the type of acquirer considered. Therefore, in multivariate analyses, share and cash acquirers are pooled together and their earnings-announcement abnormal returns are regressed on both the level of discretionary accruals as well as on the interaction between these accruals and the method of payment.

Furthermore, following prior literature relating to the impact of earnings news on firms' earnings-announcement returns, we also include three measures of current period earnings news. The first measure – captured by the variable *BEAT* in Eq. (6a), relates to earnings surprises, i.e. the extent to which the firm's actual earnings deviate from its expected earnings. Expected earnings have been proxied by the consensus most recent analyst forecast prior to the earnings-announcement date. Therefore, the variable *BEAT* is intended to capture the impact of positive earnings surprises on earnings-announcement returns, where the difference between actual and expected earnings is greater than zero. The second measure – captured by the variable *PROFIT*, relates to whether the firm has been profitable in the current period. The third measure – captured by the variable *PROFIT_INCR*, relates to whether the firm's earnings have increased in the current period.

The inclusion of these three measures reflects the findings of prior studies which show that the market rewards firms which achieve analyst expectations (e.g., Bartov et al., 2002) and that firms which report profits (e.g., Hayn, 1995) and earnings increases (e.g., Barth et al., 1999) earn a market reward over loss firms and firms with declining income. All three measures of earnings news are interacted with discretionary accruals in order to test whether there is any evidence of reduced market reward for firms that use earnings management to beat analyst expectations, to report profits or profit increases. Prior studies have indeed documented that managers use discretionary accruals to meet earnings targets (e.g., for the US: Das and Zhang, 2003; Degeorge et al., 1999; Payne and Robb, 2000; for the UK: Gore et al., 2007; Peasnell et al., 2000), and that analysts either cannot anticipate or are not motivated in their forecasts to anticipate entirely firms' efforts to manipulate earnings (e.g., Abarbanell and Lehavy, 2003; Wilson and Wu, 2011).

We finally include a number of firm-specific controls.

In light of the above, the following pooled OLS regression is estimated[9] for each of the two merger-activity phases (high and low

[7] For the purpose of robustness, a range of estimation approaches and accrual definitions were used to derive discretionary accruals. These included: the *standard*-Jones model; ROA-*and*-*growth*-matched accruals (Collins et al., 2017); *total* instead of working capital accruals. The results of these further tests, which are available from the authors, highlighted the prevalence of working capital accruals as an earnings management instrument (Louis, 2004; Sloan, 1996) as well as the importance of controlling for firm performance. Adjusting accruals for both performance *and* growth produced results which were, qualitatively and quantitatively, very similar to the ones obtained under the ROA-only matching procedure. Nonetheless, both the Price-to-Book ratio and the growth in sales revenue are included as explanatory variables in all subsequent multivariate regressions.

[8] In untabulated results, when the *Market Model* (see Eq. (7)) was used to derive expected returns, the results were not statistically different from the ones produced under the size-matching approach.

M&A activity):

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it} \times PAYMENT_{it} + \alpha_3 BEAT_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 BEAT_{it} \times EDWCA_{it} + \alpha_7 PROFIT_{it} \times EDWCA_{it} + \alpha_8 PROFIT_INCR_{it} \times EDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \sum_t \gamma_t YEAR_DUMMIES + \sum_t \delta_t INDUSTRY_DUMMIES + \varepsilon_{it} \quad (6a)$$

where CAR_{it} is the three-day size-adjusted abnormal return for acquirer i, cumulated from one trading day before to one trading day after the earnings-announcement date; $EDWCA_{it}$ are the estimated discretionary working capital accruals; $PAYMENT_{it}$ is a dummy variable set equal to one in the case of share acquirers, and zero in the case of cash acquirers; $BEAT_{it}$ is a dummy variable set equal to one if the actual EPS figure for acquirer i at t exceeds the consensus most recent analyst forecast provided prior to the earnings-announcement date by *Thomson I/B/E/S* database, and zero otherwise; $PROFIT_{it}$ is a dummy variable set equal to one if acquirer i reports positive earnings at t, and zero otherwise; $PROFIT_INCR_{it}$ is a dummy variable set equal to one if acquirer i reports an earnings improvement at t over the previous year, and zero otherwise; $BETA_{it}$ is the firm's beta (a proxy for risk), estimated by regressing for a period of up to 60 months each sample firm's returns on market (FT-All Share Index) returns; $MOMENTUM_{it}$ is the firm's cumulative return in the previous 12-month period; $SIZE_{it}$ is the natural log of total assets; PTB_{it} is the Price-to-Book ratio (a proxy for overvaluation); $SALES_GROWTH_{it}$ is the percentage change in sales revenue.

If market participants can see through the accounting distortions and if they penalize firms that achieve analysts' earnings expectations, profits or profit increases through accrual manipulation, then a negative sign for coefficients a_1, a_2, a_6, a_7 and a_8 should be documented.

We also estimate an alternative specification of Eq. (6a), namely Eq. (6b), whereby the variable *BEAT* is replaced by the actual magnitude of the earnings surprise (*EARN_SURP*). More specifically, the variable *EARN_SURP* is defined as the difference between the firm's actual and expected (proxied by the most recent analyst consensus forecast) earnings, scaled by the beginning-of-year share price. All other variables as defined as in Eq. (6a):

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it} \times PAYMENT_{it} + \alpha_3 EARN_SURP_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 EARN_SURP_{it} \times EDWCA_{it} + \alpha_7 PROFIT_{it} \times EDWCA_{it} + \alpha_8 PROFIT_INCR_{it} \times EDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \sum_t \gamma_t YEAR_DUMMIES + \sum_t \delta_t INDUSTRY_DUMMIES + \varepsilon_{it} \quad (6b)$$

4.4. Analyzing bid-announcement returns

Cumulative Average Abnormal Returns (*CARs*) for the three-day event window surrounding the bid-announcement date (day 0) are calculated according to the procedure described in the previous section. The only difference comes about regarding the way expected returns $E(R_{it})$ have been proxied. More specifically, following Brown and Warner (1985), studies analyzing acquirer returns at bid announcement have conventionally relied on excess returns estimated using the *Market Model* or the *Market-Adjusted Model*[10] (for example, Antoniou et al., 2008; Aw and Chatterjee, 2004; Draper and Paudyal, 1999; Travlos, 1987). In the present study, the *Market Model*[11] has been applied to obtain the expected returns for each acquirer on the basis of the following equation:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} \quad (7)$$

where

$E(R_{it})$ = the expected return of sample company i at day t
R_{mt} = the return on the market (FT-All Share) index at day t
α_i, β_i = coefficients estimated using an ordinary least squares regression of returns on acquirer i against the returns on the market index. The regression assumes an estimation period of 200 trading days ($t - 259$ to $t - 60$) prior to the bid-announcement date (day 0)

A growing volume of evidence indicates that acquirer returns at bid announcement are dependent, apart from the method of payment, on target origin, i.e. domestic vs. foreign firm (see for example, Conn et al., 2005; Goergen and Renneboog, 2004; Moeller and Schlingemann, 2005), the acquisition premium (Antoniou et al., 2008), the relative size of the target (Aw and Chatterjee, 2004) as well as the industry relatedness of target and bidding firm (Maquieira et al., 1998). A number of firm-specific control variables are

[9] In order to take into account time-series and cross-sectional dependence in the residuals (Gow et al., 2010), in all regression estimations standard errors are heteroskedasticity-robust and clustered by both year and industry.

[10] Where instead of using a regression to determine the α and β coefficients, α is set equal to zero and β is set equal to one.

[11] In untabulated results, the *Market-Adjusted Model* was also used to derive expected returns. The results were qualitatively similar to the ones reported in subsequent tables.

also included in the multivariate analyses.

In light of the above, the following pooled OLS regression is estimated for each of the two merger-activity phases (high and low M&A activity):

$$CAR_{it} = \beta_0 + \beta_1 EDWCA_{it} + \beta_2 PAYMENT_{it} + \beta_3 DOMESTIC_{it} + \beta_4 PREMIUM_{it} + \beta_5 REL_SIZE_{it} + \beta_6 IND_REL_{it} + \beta_7 BETA_{it} + \beta_8 MOMENTUM_{it} + \beta_9 SIZE_{it} + \beta_{10} PTB_{it} + \beta_{11} SALES_GROWTH_{it} + \sum_t \gamma_t YEAR_DUMMIES + \sum_t \delta_t INDUSTRY_DUMMIES + \varepsilon_{it} \quad (8)$$

where CAR_{it} is the three-day abnormal return (obtained using the *Market Model*) for acquirer *i*, cumulated from one trading day before to one trading day after the bid-announcement date; $EDWCA_{it}$ are the estimated discretionary working capital accruals; $PAYMENT_{it}$ is a dummy variable set equal to one in the case of share acquirers, and zero in the case of cash acquirers; $DOMESTIC_{it}$ is a dummy variable set equal to one if the target firm is based in the UK, and zero otherwise; $PREMIUM_{it}$ is the percentage premium paid by the acquirer with respect to the target's share price four weeks before the bid announcement (it applies to public targets only); REL_SIZE_{it} is the relative size of the target firm, measured as the ratio of the total consideration paid for the target over the acquirer's market value; IND_REL_{it} is a dummy variable reflecting the industry relatedness of target and bidding firm, set equal to one if the acquirer and the target belong to the same two-digit SIC code, and zero otherwise; all firm-specific variables (*BETA*, *MOMENTUM*, *SIZE*, *PTB*, *SALES_GROWTH*) are defined as in Eq. (6).

If the signalling argument holds (i.e. if the announcement of a share bid triggers negative abnormal stock returns) and if at bid announcement market participants discount the acquirers' share price on the basis of the magnitude of discretionary accruals, then a negative sign for coefficients β_2 and β_1 is expected.

5. Results and discussion

5.1. Earnings management and merger waves

Table 2 reports discretionary accrual estimates[12] over a five-year period (i.e. for the two years preceding the announcement of the deal and for the three years following its completion) and disaggregates the earnings management evidence according to the phase (high vs. low M&A activity) during which the bid announcement takes place.

The reported results are consistent with the predictions of the misvaluation theory that earnings management is expected to be more pronounced during merger-wave phases. Indeed, in the high M&A activity phase, share acquirers engage in working capital accrual management of almost 3% of total assets in the year immediately prior to the announcement of the bid (Year[0]). In the descriptive statistics presented in Table 1, the average ROA figure for share acquirers in the high M&A activity phase is 7%. Therefore, even abnormal accruals of the magnitude of 3% of assets are of economic significance, since they represent more than one third of the acquirers' asset returns. The corresponding figure for the low M&A activity phase, albeit positive, is not statistically significant.

By contrast, for the control group of cash-financed deals, there does not seem to be any difference in the accrual behavior of acquirers between the two M&A activity phases – in both cases discretionary accruals are virtually zero and thereby not statistically significant.

One question that arises with respect to the evidence of earnings management during merger-wave phases is whether firms actively instigate overvaluation through accrual manipulation or whether firms that are already overvalued have incentives to prolong their overvaluation through accrual manipulation in order to avoid disappointing the market by not delivering investors' overoptimistic performance expectations (Jensen, 2005). Shleifer and Vishny's (2003) stock-market-driven-acquisitions theory would be consistent with both arguments.

However, the fact that share and cash acquirers (by construction) exhibit comparable PTB ratios (according to the descriptive statistics in Table 1) but different accrual behavior is more consistent with the notion that acquirers paying with stock attempt to inflate their share price through earnings management in order to profit from misvaluation during hot stock market and merger wave phases by using their inflated shares as cheap acquisition currency (the extent to which such a strategy is successful will be explored in subsequent tables). In other words, it looks more likely that it is the method of payment driving the earnings management evidence rather than a glamour-effect manifesting into accruals.

In order to further test the robustness of this argument, Table 2 introduces a second control group comprising same-industry non-acquirers. Non-acquirers have been matched to share acquirers on the exact measure of overvaluation as at fiscal year-end immediately preceding the bid announcement, according to the methodology proposed by Ang and Cheng (2006). More specifically, the overvaluation of a firm *i* at time *t* is computed as (PTB*it*-PTB*jt*)/PTB*it*, where PTB*it* is the Price-to-Book ratio of firm *i* at time *t*, and PTB*jt* is the median Price-to-Book ratio of industry *j* (two-digit SIC) to which firm *i* belongs at *t*.

In both phases, discretionary accruals for this latter sub-sample exhibit a pattern very similar to the one recorded for cash acquirers. Hence, evidence of income-increasing accrual reporting by share acquirers but not by similarly overvalued non-acquirers further reinforces the argument that it is the method of payment driving the earnings management incentives; and that the earnings

[12] All accrual estimates are winsorized at the 1% and 99% level. However, the reported results are not sensitive to winsorizing.

Table 2
Acquirers' discretionary accruals in the five years surrounding the deal announcement: by M&A activity phase.

	Year [−1]	Year [0]	Year [+1]	Year [+2]	Year [+3]
High M&A activity phase					
Share acquirers	0.0112	**0.0299*****	**0.0342***	−0.0022	−0.0024
	(0.2370)	*(0.0026)*	*(0.0828)*	*(0.4485)*	*(0.4325)*
Cash acquirers	−0.0029	−0.0020	−0.0062	−0.0138	0.0127
	(0.4064)	*(0.4196)*	*(0.3331)*	*(0.1600)*	*(0.1838)*
Non-acquirers	0.0040	0.0053	−0.0026	−0.0072	0.0025
	(0.4043)	*(0.3243)*	*(0.4364)*	*(0.3450)*	*(0.4485)*
Share vs. cash acquirers	0.0141	**0.0319****	**0.0404***	0.0116	−0.0151
	(0.2384)	*(0.0138)*	*(0.0781)*	*(0.2948)*	*(0.2252)*
Share vs. non-acquirers	0.0072	**0.0246****	**0.0368***	0.0050	−0.0049
	(0.3742)	*(0.0280)*	*(0.0817)*	*(0.4184)*	*(0.4183)*
Low M&A activity phase					
Share acquirers	−0.0161	0.0221	−0.0088	−0.0137	0.0033
	(0.1148)	*(0.1635)*	*(0.4051)*	*(0.2524)*	*(0.4442)*
Cash acquirers	−0.0085	−0.0127	−0.0082	−0.0028	0.0009
	(0.1641)	*(0.1743)*	*(0.3080)*	*(0.3943)*	*(0.4631)*
Non-acquirers	0.0028	−0.0130	−0.0173	−0.0310	0.0243
	(0.5841)	*(0.2747)*	*(0.2759)*	*(0.1725)*	*(0.2031)*
Share vs. cash acquirers	−0.0076	**0.0348***	−0.0006	−0.0109	0.0024
	(0.2379)	*(0.0926)*	*(0.4948)*	*(0.3173)*	*(0.4631)*
Share vs. non-acquirers	−0.0189	**0.0351***	0.0085	0.0173	−0.0210
	(0.1356)	*(0.0638)*	*(0.4266)*	*(0.2039)*	*(0.2863)*

The table reports discretionary working capital accruals estimated from the ROA-adjusted modified-Jones model for the sample of 113 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010; and for their control groups of cash acquirers and matched non-acquirers. Year [0] (Year [−1]) is the first (second) year with an earnings release preceding the announcement of the deal. Years [+1], [+2] and [+3] are the first, second and third year respectively following the deal completion. Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

figure of share acquirers contains opportunistic and thereby value-irrelevant components.

A final point to raise on the basis of Table 2 is that, while the earnings management evidence is indeed concentrated in the period immediately preceding the deal announcement, discretionary accruals for share acquirers during high M&A activity phases continue to remain positive for at least a year following the deal completion. Jones (1991), who does not find evidence of reversal of accruals in the year immediately following import relief investigations, argues that these results may be due to the fact that managers tend to reverse excessive accruals over a period of more than one year or that they face other incentives that conflict with the reversal, such as the intention to petition for import relief investigation again in the near future (avoid losing credibility with investors, or make another share-for-share bid, in the context of the present study) or to avoid ex post settling up by the regulators.

Dechow et al. (1996), in their analysis of firms investigated by the SEC for allegedly overstating earnings, report that 10% of their sample firms manipulate earnings for more than three years. If a firm manages earnings continuously for three years, the reversal of the initial manipulated earnings will occur at earliest in the fourth year, and the subsequent accrual reversal will easily take up a long horizon (Chan et al., 2004).

Therefore, the difference between a high and a low M&A activity phase may not lie only in the intensity of accrual manipulation, but also in the ability of acquirers to delay the ultimate reversal of these abnormal accruals.

Summarizing the discussion in the context of Table 2, it seems that while the method of payment chosen to finance the acquisition is indeed the main driver of earnings management incentives, market condition can still have an impact on the reported results across the following two dimensions. First, market condition can affect the *extent* of earnings management by stock acquirers: we tested empirically the suggestion from the stock-market-driven-acquisitions literature that earnings management is expected to be more pronounced during booming ('hot') stock market and merger-wave phases, and we indeed found that earnings management ahead of stock-for-stock bids is largely associated with phases of high market valuation and rates of M&A. Second, market condition can affect whether such an earnings management strategy is successful or whether market participants can in fact 'see through' and 'reverse out' the effects of the instrument used to inflate earnings. This exact issue is empirically addressed in subsequent sections.

A strand of the literature has analyzed M&A incentives in the context of goodwill write-offs. In particular, Gu and Lev (2011) trace goodwill write-offs to the incentives of managers of overvalued firms to acquire businesses; and find that share overpricing predicts both the occurrence and the magnitude of goodwill write-offs – the result of often ill-advised, overpaid for and strategically misfit acquisitions. More recently, Kravet et al. (2015) analyze misstatements resulting in improved company performance and subsequent litigation, and find that "misstatement firms are more likely than control firms to announce stock-based acquisitions with subsequent goodwill write-downs".

In order to analyze goodwill write-downs in the context of our study, we first exclude 14 share-for-share transactions that were accounted for using pooling (merger) accounting, and for which no goodwill (the excess of the total consideration value paid for the target over the fair value of its net assets) was recognized upon completion of the deal. This leaves 99 share-for-share transactions

(and their matched cash counterparts) that were accounted for under purchase (acquisition) accounting.[13] We examine whether acquirers impair goodwill in the three years following completion of the deal. Given that the availability of the goodwill impairment variable on Datastream/Worldscope is scarce, particularly for the earlier years in the sample, we follow Kravet et al. (2015) and complement our analysis by considering large (in excess of 5%) decreases in the recognized value of goodwill.

Panel A of Table 3 reports the frequency of goodwill impairments according to the method of payment and the M&A phase considered. As can be seen, more than half of the sample share acquirers (53 out of 99) report goodwill write-downs within three years of the deal completion, the vast majority of which (41 out of 53) involve share-for-share acquisitions announced during high M&A activity phases.

We then consider the extent to which *ex ante* (pre-bid) earnings management is associated with *ex post* goodwill write-downs for the various sub-groups of acquirers. In particular, adapting the methodology of Kravet et al. (2015) in our study's framework, we apply a multinomial logistic regression analysis and use a polychotomous dependent variable, *GW_IMPAIR_SHARE_HIGH/GW_IMPAIR_SHARE_LOW/GW_IMPAIR_CASH_HIGH*, coded 1 for goodwill impairments following share-swap acquisitions announced during high M&A activity phases (*GW_IMPAIR_SHARE_HIGH*), coded 2 for goodwill impairments following share-swap acquisitions announced during low M&A activity phases (*GW_IMPAIR_SHARE_LOW*), coded 3 for goodwill impairments following cash acquisitions announced during high M&A activity phases (*GW_IMPAIR_CASH_HIGH*), and 0 otherwise. Controlling for several deal- and firm-specific characteristics, the regression specification is the following:

$$\begin{aligned}&\Pr(GW_IMPAIR_SHARE_HIGH/GW_IMPAIR_SHARE_LOW/GW_IMPAIR_CASH_HIGH)_{i,t+1,t+3}\\&= \gamma_0 + \gamma_1 EM_RANK_{it} + \gamma_2 DOMESTIC_{it} + \gamma_3 PREMIUM_{it} + \gamma_4 REL_SIZE_{it} + \gamma_5 IND_REL_{it} + \gamma_6 BETA_{it} + \gamma_7 MOMENTUM_{it}\\&\quad + \gamma_8 SIZE_{it} + \gamma_9 PTB_{it} + \gamma_{10} SALES_GROWTH_{it} + \varepsilon_{it}\end{aligned} \tag{9}$$

where *EM_RANK* is a dummy variable set equal to 1 if acquirer *i* is ranked into an aggressive earnings management quartile based on the level of its pre-bid discretionary working capital accruals at *t*, and zero otherwise; all remaining variables are defined as in Eq. (8).

Panel B of Table 3 reports the results of the above estimation. As can be seen, *EM_RANK* is positively associated only with $GW_IMPAIR_SHARE_HIGH_{i,t+1,t+3}$ in column (1), suggesting that pre-bid earnings management is positively associated with subsequent goodwill impairments only in the case of share-swap acquisitions announced during hot markets. In other words, compared to control groups, share acquirers in hot markets engage to a greater extent in accrual manipulation prior to the announcement of the bid (as evidenced by the results in Table 2) and exhibit a greater probability to record goodwill impairments in the three years following the deal completion as a result.

Reflecting the findings of prior studies, the results further suggest that high pre-bid acquirer market valuation (*MOMENTUM*, $p < 0.05$) and overpayment (*PREMIUM*, $p < 0.01$) associated with share-for-share deals in hot markets also increase the probability of subsequent goodwill impairments. The same goes for integration difficulties associated with the acquisition of large targets (*REL_SIZE*, $p < 0.05$).

5.2. Earnings management and earnings-announcement returns: do share acquirers succeed in inflating their share price?

Table 4 presents Cumulative Average Abnormal Returns (*CAR*s) for the three-day event window surrounding the acquirers' earnings-announcement date. According to the evidence in Panel A, share acquirers earn positive and statistically significant announcement returns of 1.61% relative to a size-matched portfolio when earnings are announced during a high M&A activity phase, but experience negative announcement returns of 3.35% in low M&A activity phases. By contrast, cash acquirers benefit from positive announcement returns in both M&A activity phases.

For share acquirers in particular, for which a discrepancy in the sign of their earnings-announcement returns is documented between high and low M&A activity phases, Panel B further explores the extent to which the aforementioned discrepancy could be attributed to differences in the intensity of pre-bid earnings management. More specifically, share acquirers are split into conservative and aggressive earnings management quartiles according to the level of abnormal accruals in the year immediately preceding the announcement of the bid, so that *CAR*s can be disaggregated on the basis of both a specific M&A activity phase *and* the intensity of pre-bid earnings management.

It becomes evident that both the positive returns documented for share acquirers in the high M&A activity phase as well as the negative returns documented in the low M&A activity phase (Panel A) are driven by those acquirers that engage in earnings management more aggressively. Aggressive share acquirers earn 2.07% relative to a size-matched portfolio during merger-wave phases, but experience negative returns of 7.53% in non-wave phases.

The aforementioned evidence is consistent with the argument that investors' ability to unravel earnings management does depend on the prevailing market conditions. During hot stock market and high M&A activity phases, the evidence is consistent with market participants being unable to see through the poor earnings quality of aggressive share acquirers and unintentionally rewarding them

[13] In the first part of our sample period, under UK GAAP, goodwill is recognized under intangible assets and subsequently amortized (FRS 10) and reviewed for impairment if deemed necessary (FRS 11). In the second part of the sample period, under IFRS, goodwill is recognized and subject to annual impairment testing (IFRS 3). In both cases, goodwill impairment leads to a decrease in the balance sheet value of goodwill and in a corresponding charge against profit. Amel-Zadeh et al. (2016) provide a thorough discussion of the various considerations associated with the different M&A accounting regimes that have been tried over time in UK, US and international standards.

ARTICLE IN PRESS

Table 3
Acquirers' pre-bid earnings management and subsequent goodwill impairments.

Panel A – Goodwill impairments by M&A activity phase and method of payment (No of acquirers)

	High M&A activity phase	Low M&A activity phase	Total
Share acquirers	41	12	53
Cash acquirers	26	17	43
Total	67	29	96

Panel B – Multinomial logistic regression analysis

Regression model:

$$\Pr(GW_IMPAIR_SHARE_HIGH/GW_IMPAIR_SHARE_LOW/GW_IMPAIR_CASH_HIGH)_{i,t+1,t+3} = \gamma_0 + \gamma_1 EM_RANK_{it} + \gamma_2 DOMESTIC_{it} + \gamma_3 PREMIUM_{it} + \gamma_4 REL_SIZE_{it} + \gamma_5 IND_REL_{it} + \gamma_6 BETA_{it} + \gamma_7 MOMENTUM_{it} + \gamma_8 SIZE_{it} + \gamma_9 PTB_{it} + \gamma_{10} SALES_GROWTH_{it} + \varepsilon_{it}$$

	GW_IMPAIR_ SHARE_HIGH *i,t + 1,t + 3*	GW_IMPAIR_ SHARE_LOW *i,t + 1,t + 3*	GW_IMPAIR_ CASH_HIGH *i,t + 1,t + 3*
EM_RANK	**2.1213*****	0.9407	1.3202
	(0.0040)	*(0.1680)*	*(0.1620)*
DOMESTIC	**1.3321***	**1.4973***	0.6656
	(0.0780)	*(0.0650)*	*(0.5170)*
PREMIUM	**4.6390*****	**2.4868****	**6.2755*****
	(0.0020)	*(0.0340)*	*(0.0000)*
REL_SIZE	**2.7148****	1.7287	**2.4995****
	(0.0260)	*(0.2030)*	*(0.0460)*
IND_REL	0.2504	0.0097	−0.1730
	(0.8470)	*(0.9940)*	*(0.9010)*
BETA	0.4291	0.5811	0.1483
	(0.3210)	*(0.1850)*	*(0.7460)*
MOMENTUM	**2.0185****	0.9345	1.1993
	(0.0250)	*(0.3120)*	*(0.2050)*
SIZE	−0.2629	−0.0125	**−0.6585****
	(0.1550)	*(0.9450)*	*(0.0390)*
PTB	0.0015	−0.0089	0.0147
	(0.9690)	*(0.8460)*	*(0.7000)*
SALES_GROWTH	0.5908	1.4071	0.3613
	(0.6150)	*(0.2250)*	*(0.7560)*
Intercept	−1.6832	−1.9839	0.0212
	(0.2430)	*(0.1990)*	*(0.9910)*
Pseudo R-sq.	0.2365		

The table analyzes goodwill impairments recorded within three years following completion of the deal for a sub-sample of 99 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010 (and for their control group of cash acquirers). Regression variables in *Panel B* are defined as follows: (*GW_IMPAIR_SHARE_HIGH/GW_IMPAIR_SHARE_LOW/GW_IMPAIR_CASH_HIGH)i,t + 1,t + 3* is a polychotomous variable coded 1 for goodwill impairments following share-swap acquisitions announced during high M&A activity phases (*GW_IMPAIR_SHARE_HIGH*), coded 2 for goodwill impairments following share-swap acquisitions announced during low M&A activity phases (*GW_IMPAIR_SHARE_LOW*), coded 3 for goodwill impairments following cash acquisitions announced during high M&A activity phases (*GW_IMPAIR_CASH_HIGH*), and 0 otherwise; *EM_RANK* is a dummy variable set equal to 1 if acquirer *i* is ranked into an aggressive earnings management quartile based on the level of its pre-bid discretionary working capital accruals at *t*, and zero otherwise; *DOMESTIC* is a dummy variable set equal to one if the target firm is based in the UK and zero otherwise; *PREMIUM* is the percentage premium paid by the acquirer with respect to the target's share price four weeks before the bid announcement (it applies to public targets only); *REL_SIZE* reflects the relative size of the target firm and is measured as the ratio of the total consideration paid for the target over the acquirer's market value; *IND_REL* is a dummy variable reflecting the industry relatedness of target and bidding firm, set equal to one if the acquirer and the target belong to the same two-digit SIC code and zero otherwise; *BETA* is the firm's beta (a proxy for risk), estimated by regressing for a period of up to 60 months each sample firm's returns on market (FT-All Share Index) returns; *MOMENTUM* is the firm's cumulative return in the previous 12-month period; *SIZE* is the natural log of total assets; *PTB* is the Price-to-Book ratio (a proxy for overvaluation); *SALES_GROWTH* is the percentage change in sales revenue. Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; the reported *p*-values reflect White-adjusted standard errors; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

for engaging in earnings management.

By contrast, during cold stock market and low M&A activity phases, when market sentiment is pessimistic and mistrustful, share acquirers appear, if anything, to be penalized for their aggressive accrual reporting. As a result, in low M&A activity phases, earnings management by share acquirers does not seem to have the intended impact on the share price.

The earlier discussion is also reflected in Table 5 which reports the results from estimating Eqs. (6a) and (6b). In particular, the results show that whether discretionary accruals are significant in explaining the variation in earnings-announcement returns depends on the type of acquirer considered.

During the high M&A activity phase, the non-significant coefficient on the accrual variable (*EDWCA*) but the positive and statistically significant coefficient on the interaction variable (*EDWCA* × *PAYMENT*) suggests exactly this, i.e. that it is for share acquirers that discretionary working capital accruals contribute to positive abnormal returns at earnings announcement, enabling

Table 4
Acquirers' abnormal stock returns at earnings announcement.

	Entire sample period	High M&A activity phase	Low M&A activity phase	Difference High vs. Low
Panel A – CARs by M&A activity phase and method of payment				
Share acquirers	0.0073	**0.0161****	**−0.0335*****	**0.0496****
	($p > 0.10$)	($p < 0.05$)	($p < 0.01$)	($p = 0.0139$)
Cash acquirers	**0.0210*****	**0.0132*****	**0.0384*****	**−0.0252***
	($p < 0.01$)	($p < 0.01$)	($p < 0.01$)	($p = 0.0509$)
Panel B – CARs by M&A activity phase and earnings management classification for share acquirers				
Conservative EM quartiles	0.0095	0.0097	0.0084	0.0013
	($p > 0.10$)	($p > 0.10$)	($p > 0.10$)	($p = 0.4772$)
Aggressive EM quartiles	0.0057	**0.0207*****	**−0.0753*****	**0.0960*****
	($p > 0.10$)	($p < 0.01$)	($p < 0.01$)	($p = 0.0043$)

Based on a sample of 113 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010 (and on their control group of cash acquirers), the table reports Cumulative Average Abnormal Returns (*CARs*) for the three-day event window (trading days −1 to +1) surrounding the acquirers' earnings-announcement date (day 0). The latter was obtained from the *Regulatory News Service* of the London Stock Exchange. Returns of sample firms are benchmarked against ten size-based control portfolios. Earnings management (EM) in the year immediately preceding the announcement of a deal is proxied by discretionary working capital accruals estimated from the ROA-adjusted modified-Jones model. Conservative (aggressive) EM quartiles are those where abnormal accruals are below (above) the sample median. Tests for the significance of the *CARs* are based on the *t*-statistic in Brown and Warner (1985). Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

prospective share acquirers to inflate their share price in the period preceding the bid announcement.

Based on estimations from regression model (a), during high M&A activity phases, if discretionary accruals increase by one percentage point relative to assets, share acquirers experience a 0.29% higher three-day abnormal announcement return relative to cash acquirers. For share acquirers engaging in more aggressive accrual reporting (for which discretionary working capital accruals rise to almost 8% of assets), the average increase in returns is 2.37% ($0.2962 * 0.08$). This is equivalent to a relative increase in market value of almost 34 ($2.37\% * 1434.07$) million pounds for the average firm. The amount is economically significant given that it represents more than 5% of the average deal value. When regression model (b) is considered, the relative increase in the three-day abnormal announcement return for aggressive share acquirers is 2.48% ($0.3102 * 0.08$), corresponding to a relative increase in market value of almost 36 ($2.48\% * 1434.07$) million pounds.

Combined with the evidence in Table 2, these results are consistent with the Shleifer-Vishny thesis that during a booming market, acquiring firms have greater opportunities to exploit potential misvaluations, and also may have more powerful incentives to become overvalued through earnings management in order to be able to perform acquisitions using their mispriced stock as currency; and that they can afford to do so, given the general market euphoria, without raising suspicions that the reported earnings have actually been managed.

In regression model (a), the coefficient on $BEAT \times EDWCA$ is also positive and significant (at the 10% level though), suggesting that during hot stock market phases the market attaches a premium to firms that beat analysts' earnings expectations, even if these have been achieved through earnings management. Indeed, firms that beat analysts' earnings targets through accrual management earn higher returns than firms missing analysts' expectations (in untabulated results, the coefficient on the linear combination of $BEAT + BEAT \times EDWCA$ when $BEAT = 1$ is also positive and even more significant, *p-value* = 0.030) suggesting a positive marginal effect of beating earnings expectations on earnings-announcement returns, at the mean level of earnings management.

The results are qualitatively similar under regression model (b). Firms that achieve positive earnings surprises are rewarded with higher returns (the coefficient on *EARN_SURP* is positive and statistically significant), even if these positive earnings surprises have been achieved by engaging in accrual management (the coefficient on $EARN_SURP \times EDWCA$ is also positive and statistically significant). In this context, it is worth noting that on the one to five recommendation scale provided by *I/B/E/S* (where one represents a 'strong buy' and five represents a 'sell' recommendation), sample share acquirers receive an average recommendation of around two ('buy'). This corroborates concerns that if managers deploy an accounting device which inflates earnings in opaque ways that even skilled analysts cannot discern, then the market is likely to be misled.

The exact opposite pattern is observed during low M&A activity phases: share acquirers engaging in aggressive accrual reporting experience lower earnings-announcement returns relative to cash acquirers (the coefficient on $EDWCA \times PAYMENT$ is negative and statistically significant in both regression specifications); at the same time, there is evidence that the market significantly reduces the reward for firms that beat analysts' earnings expectations (achieve positive earnings surprises) through earnings management (the coefficients on $BEAT \times EDWCA$ and $EARN_SURP \times EDWCA$ are both significantly negative).

Taken together, the aforementioned evidence suggests that market conditions do affect investors' ability to see through the earnings management device. In hot markets, not recognizing that high accruals reported by share acquirers are driven by opportunism, market participants appear to be misled in that they inefficiently price value-irrelevant discretionary accruals and unintentionally reward these acquirers for engaging in earnings management.

ARTICLE IN PRESS

Table 5
Acquirers' abnormal stock returns at earnings announcement: regression analysis.

Regression models:

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it}xPAYMENT_{it} + \alpha_3 BEAT_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 BEAT_{it}xEDWCA_{it} + \alpha_7 PROFIT_{it}xEDWCA_{it} + \alpha_8 PROFIT_INC_{it}xEDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \varepsilon_{it} \quad (a)$$

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it}xPAYMENT_{it} + \alpha_3 EARN_SURP_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 EARN_SURP_{it}xEDWCA_{it} + \alpha_7 PROFIT_{it}xEDWCA_{it} + \alpha_8 PROFIT_INCR_{it}xEDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \varepsilon_{it} \quad (b)$$

	High M&A activity phase (a)	High M&A activity phase (b)	Low M&A activity phase (a)	Low M&A activity phase (b)
EDWCA	−0.0802	−0.0860	0.0517	0.0758
	(0.6030)	*(0.5920)*	*(0.2720)*	*(0.1990)*
EDWCA x PAYMENT	**0.2962****	**0.3102****	**−0.8376****	**−0.6434****
	(0.0160)	*(0.0130)*	*(0.0200)*	*(0.0220)*
BEAT	**0.0264***		0.0376	
	(0.0720)		*(0.2600)*	
EARN_SURP		**0.5535*****		−0.8693
		(0.0070)		*(0.5250)*
PROFIT	−0.0092	−0.0011	0.0147	0.0156
	(0.6450)	*(0.9560)*	*(0.8120)*	*(0.7880)*
PROFIT_INCR	0.0277	0.0271	−0.0320	−0.0263
	(0.1810)	*(0.1980)*	*(0.2650)*	*(0.3890)*
BEAT × EDWCA	**0.2376***		**−0.7775*****	
	(0.0560)		*(0.0100)*	
EARN_SURP× EDWCA		**0.2641****		**−0.8084*****
		(0.0280)		*(0.0060)*
PROFIT × EDWCA	−0.3478	−0.4118	0.1485	0.1693
	(0.1310)	*(0.1030)*	*(0.6070)*	*(0.5130)*
PROFIT_INCR × EDWCA	0.0479	0.0842	0.1622	−0.2182
	(0.8290)	*(0.7060)*	*(0.5100)*	*(0.2100)*
BETA	−0.0108	−0.0113	−0.0231	−0.0086
	(0.1120)	*(0.1000)*	*(0.3020)*	*(0.6650)*
MOMENTUM	**−0.0345***	**−0.0452****	−0.0744	−0.0295
	(0.0840)	*(0.0260)*	*(0.1610)*	*(0.6250)*
SIZE	0.0017	0.0022	−0.0046	−0.0049
	(0.6540)	*(0.5730)*	*(0.4260)*	*(0.4120)*
PTB	**−0.0012****	**−0.0011****	0.0036	0.0040
	(0.0130)	*(0.0280)*	*(0.7260)*	*(0.6040)*
SALES_GROWTH	**0.0415***	**0.0431***	−0.0134	−0.0111
	(0.0880)	*(0.0710)*	*(0.4770)*	*(0.5250)*
Intercept	−0.0050	0.0020	0.0462	0.0334

(*continued on next page*)

Table 5 (*continued*)

Regression models:

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it} xPAYMENT_{it} + \alpha_3 BEAT_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 BEAT_{it} xEDWCA_{it} + \alpha_7 PROFIT_{it} xEDWCA_{it} + \alpha_8 PROFIT_INC_{it} xEDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \varepsilon_{it} \quad (a)$$

$$CAR_{it} = \alpha_0 + \alpha_1 EDWCA_{it} + \alpha_2 EDWCA_{it} xPAYMENT_{it} + \alpha_3 EARN_SURP_{it} + \alpha_4 PROFIT_{it} + \alpha_5 PROFIT_INCR_{it} + \alpha_6 EARN_SURP_{it} xEDWCA_{it} + \alpha_7 PROFIT_{it} xEDWCA_{it} + \alpha_8 PROFIT_INCR_{it} xEDWCA_{it} + \alpha_9 BETA_{it} + \alpha_{10} MOMENTUM_{it} + \alpha_{11} SIZE_{it} + \alpha_{12} PTB_{it} + \alpha_{13} SALES_GROWTH_{it} + \varepsilon_{it} \quad (b)$$

	High M&A activity phase (a)	High M&A activity phase (b)	Low M&A activity phase (a)	Low M&A activity phase (b)
	(0.8740)	*(0.9510)*	*(0.5470)*	*(0.6420)*
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Adjusted R-sq.	0.0655	0.0853	0.1930	0.2455

Based on a sample of 113 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010 (and on their control group of cash acquirers), the table reports the results from estimating pooled OLS regressions using the following variables: *CAR* is the three-day size-adjusted abnormal return for acquirer *i*, cumulated from one trading day before to one trading day after the earnings-announcement date; *EDWCA* are the estimated discretionary working capital accruals (derived from the ROA-adjusted modified-Jones model); *PAYMENT* is a dummy variable set equal to one in the case of share acquirers and zero in the case of cash acquirers; *BEAT* is a dummy variable set equal to one if the actual EPS figure of acquirer *i* at *t* exceeds the consensus most recent analyst forecast provided prior to the earnings-announcement date by *Thomson I/B/E/S* database, and zero otherwise; *EARN_SURP* is the difference between the actual EPS figure of acquirer *i* at *t* and the consensus most recent analyst forecast, scaled by the beginning-of-year share price; *PROFIT* is a dummy variable set equal to one if acquirer *i* reports positive earnings at *t*, and zero otherwise; *PROFIT_INCR* is a dummy variable set equal to one if acquirer *i* reports an earnings improvement at *t* over the previous year, and zero otherwise; *BETA* is the firm's beta (a proxy for risk), estimated by regressing for a period of up to 60 months each sample firm's returns on market (FT-All Share Index) returns; *MOMENTUM* is the firm's cumulative return in the previous 12-month period; *SIZE* is the natural log of total assets; *PTB* is the Price-to-Book ratio (a proxy for overvaluation); *SALES_GROWTH* is the percentage change in sales revenue. Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; the reported *p*-values reflect standard errors that are heteroskedasticity-robust and clustered by both year and industry; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

ARTICLE IN PRESS

ARTICLE IN PRESS

Table 6
Acquirers' abnormal stock returns at bid announcement.

	Entire sample period	High M&A activity phase	Low M&A activity phase	Difference High vs. Low
Panel A – CARs by M&A activity phase and method of payment				
Share acquirers	**−0.0103****	0.0022	**−0.0485*****	**0.0507****
	($p < 0.05$)	($p > 0.10$)	($p < 0.01$)	($p = 0.0255$)
Cash acquirers	**0.0267*****	**0.0248*****	**0.0298*****	0.0050
	($p < 0.01$)	($p < 0.01$)	($p < 0.01$)	($p = 0.3478$)
Panel B – CARs by M&A activity phase and earnings management classification for share acquirers				
Conservative EM quartiles	−0.0057	0.0070	**−0.0320****	0.0390
	($p > 0.10$)	($p > 0.10$)	($p < 0.05$)	($p = 0.1073$)
Aggressive EM quartiles	**−0.0138****	−0.0008	**−0.0705*****	**0.0697****
	($p < 0.05$)	($p > 0.10$)	($p < 0.01$)	($p = 0.0429$)

Based on a sample of 113 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010 (and on their control group of cash acquirers), the table reports Cumulative Average Abnormal Returns (*CAR*s) for the three-day event window (trading days −1 to +1) surrounding the bid-announcement date (day 0). The *Market Model* has been applied to derive the expected returns for each acquirer. Earnings management (EM) in the year immediately preceding the announcement of a deal is proxied by discretionary working capital accruals estimated from the ROA-adjusted modified-Jones model. Conservative (aggressive) EM quartiles are those where abnormal accruals are below (above) the sample median. Tests for the significance of the *CAR*s are based on the *t*-statistic in Brown and Warner (1985). Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

5.3. Earnings management and bid-announcement returns

Table 6 presents Cumulative Average Abnormal Returns (*CAR*s) for the three-day event window surrounding the date of the bid announcement. As results in Panel A reveal, evidence in support of the signalling hypothesis, i.e. negative abnormal returns documented at the announcement of a share bid, exists only when the latter takes place during a phase of low M&A activity. By contrast, cash acquirers benefit from positive bid-announcement returns in both M&A activity phases.

Results in Panel B further show that during low M&A activity phases, share acquirers experience negative returns regardless of the intensity of their pre-bid earnings management. It is worth noting however that the magnitude of the underperformance in the case of aggressive share acquirers is more than twice that of the conservative share acquirers.

Reinforcing the arguments raised in the context of the earnings-announcement analysis, these further results also indicate that during phases of high market valuations and M&A activity, market participants are more likely to be misled by earnings management and to not fully recognize the negative signal that the announcement of a share bid carries. This is because under such market conditions investors are more likely to underestimate the extent of the bidders' overvaluation (Rhodes-Kropf and Viswanathan, 2004) and less likely (given the widespread market 'exuberance') to attribute this overvaluation to earnings management.

The regression results presented in Table 7 echo the above analysis. Table 7 reports the results from estimating Eq. (8).

In high M&A activity phases, neither the coefficient on discretionary accruals (*EDWCA*) nor the coefficient on the method of payment (*PAYMENT*) exhibit statistical significance, suggesting that neither pre-bid earnings management nor the method of payment affect the acquirers' bid-announcement returns. By contrast, in low M&A activity phases, the negative and statistically significant coefficients on both the aforementioned variables indicate that investors react to the signal that the announcement of a share bid carries and appear to penalize acquirers that have engaged in income-increasing accrual reporting in the pre-bid period.

We briefly describe below the potential economic benefits at stake by estimating what acquiring firms would gain in relation to the terms of the transaction, when they engage in earnings management but the market fails to see through such behavior – as is the case during hot markets and high M&A activity phases. According to the regression results in Table 5 and the related discussion in Section 5.2, share acquirers engaging more aggressively in earnings management benefit from a relative increase in market value by almost 2.4% on average.

Assuming that the total consideration value paid to target shareholders remains the same (after all, this is the consideration value that secured the agreement of the target on the terms of the deal), a 2.4% increase in the market value (share price) of the acquirer would decrease the number of shares that the acquirer would issue towards satisfying these terms by an equal percentage. Considering that the new shares issued to secure control of the target[14] constitute a significant percentage of the acquirers' shares outstanding prior to the bid, the implications of this stock issue for the voting power and control of existing acquirer shareholders are far from negligible.

At the same time, for share acquirers engaging in earnings management during high M&A activity phases, the average ratio of the consideration value paid to the target over the acquiring firm's market value (a proxy for the relative size of the deal) is 49%, implying that the average deal in the sample increases the size of the acquirer by roughly 50%. An increased pre-bid market value but unchanged consideration value would imply a decrease of the relative deal size, reflecting the reduced acquisition cost that these acquirers would bear. In other words, the absence of earnings management would mean that more (lower-priced) shares would have

[14] The information relating to the actual number of shares issued by each acquirer towards completion of the deal was hand-collected by reviewing the acquirers' annual reports and/or the relevant announcements on the *Regulatory News Service* of the London Stock Exchange.

Table 7
Acquirers' abnormal stock returns at bid announcement: regression analysis.

Regression model:

$$CAR_{it} = \beta_0 + \beta_1 EDWCA_{it} + \beta_2 PAYMENT_{it} + \beta_3 DOMESTIC_{it} + \beta_4 PREMIUM_{it} + \beta_5 REL_SIZE_{it} + \beta_6 IND_REL_{it} + \beta_7 BETA_{it} + \beta_8 MOMENTUM_{it} + \beta_9 SIZE_{it} + \beta_{10} PTB_{it} + \beta_{11} SALES_GROWTH_{it} + \varepsilon_{it}$$

	High M&A activity phase	Low M&A activity phase
EDWCA	−0.0248	**−0.2465****
	(0.1050)	*(0.0290)*
PAYMENT	0.0074	**−0.0395****
	(0.6230)	*(0.0260)*
DOMESTIC	**−0.0419***	−0.0153
	(0.0550)	*(0.4210)*
PREMIUM	**−0.0806****	−0.0096
	(0.0310)	*(0.2370)*
REL_SIZE	−0.0077	**−0.0893****
	(0.5380)	*(0.0170)*
IND_REL	**−0.0376***	**−0.0484****
	(0.0960)	*(0.0220)*
BETA	−0.0094	0.0132
	(0.2680)	*(0.4820)*
MOMENTUM	0.0002	**−0.0304***
	(0.9910)	*(0.0600)*
SIZE	0.0055	−0.0061
	(0.3380)	*(0.2960)*
PTB	0.0002	−0.0002
	(0.5780)	*(0.3420)*
SALES_GROWTH	−0.0034	−0.0191
	(0.6180)	*(0.1250)*
Intercept	**0.0936***	**0.1535*****
	(0.0770)	*(0.0000)*
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Adjusted R-sq.	0.0892	0.4260

Based on a sample of 113 UK publicly traded companies undertaking share-swap acquisitions during the period 1997–2010 (and on their control group of cash acquirers), the table reports the results from estimating a pooled OLS regression using the following variables: *CAR* is the three-day abnormal return (obtained using the *Market Model*) for acquirer *i*, cumulated from one trading day before to one trading day after the bid-announcement date; *EDWCA* are the estimated discretionary working capital accruals (derived from the ROA-adjusted modified-Jones model); *PAYMENT* is a dummy variable set equal to one in the case of share acquirers and zero in the case of cash acquirers; *DOMESTIC* is a dummy variable set equal to one if the target firm is based in the UK and zero otherwise; *PREMIUM* is the percentage premium paid by the acquirer with respect to the target's share price four weeks before the bid announcement (it applies to public targets only); *REL_SIZE* reflects the relative size of the target firm and is measured as the ratio of the total consideration paid for the target over the acquirer's market value; *IND_REL* is a dummy variable reflecting the industry relatedness of target and bidding firm, set equal to one if the acquirer and the target belong to the same two-digit SIC code and zero otherwise; *BETA* is the firm's beta (a proxy for risk), estimated by regressing for a period of up to 60 months each sample firm's returns on market (FT-All Share Index) returns; *MOMENTUM* is the firm's cumulative return in the previous 12-month period; *SIZE* is the natural log of total assets; *PTB* is the Price-to-Book ratio (a proxy for overvaluation); *SALES_GROWTH* is the percentage change in sales revenue.
Significant results are marked in bold and the corresponding *p*-values are given in parenthesis; the reported *p*-values reflect standard errors that are heteroskedasticity-robust and clustered by both year and industry; ***, ** and * indicate 1%, 5% and 10% level of significance respectively.

to be offered to achieve a given cash-equivalent consideration (diluting the stake of existing shareholders in the acquirer).

Furthermore, as per the descriptive statistics in Table 1, if, on average, the deal is some 30 percent of the combined market value [620/(1434 plus 620)], then, other things equal, each one percent reduction in new shares issued would add approximately 0.3 percent to the amalgamation's EPS. This in turn suggests that the lower acquisition cost cushions the post-merger earnings dilution.

6. Summary and conclusions

The paper explores the inter-relation between pricing, method of payment and earnings management incentives in different merger-activity phases. Prior studies have investigated the earnings management hypothesis ahead of share-swap acquisitions. The results in this paper show that the earnings management evidence for share acquirers is mainly driven by periods of high market valuation and M&A activity.

The fact that cash acquirers with comparable PTB ratios do not exhibit income-increasing accrual behavior is consistent with the notion that the earnings management evidence documented for share acquirers is not simply a glamour-effect manifesting into accruals, but rather indicates that, in line with the stock-market-driven-acquisitions argument, share acquirers actively seek to inflate their share price through earnings management in order to profit from misvaluation during merger wave phases by using their inflated shares as cheap acquisition currency.

The results further show that the extent to which such an earnings management strategy is successful depends on the prevailing

market conditions. More specifically, in high M&A activity phases, the evidence suggests that discretionary accruals indeed enable share acquirers to earn positive abnormal returns and to inflate their share price in the period preceding the bid announcement. By contrast, in low M&A activity phases, earnings management by share acquirers does not seem to have the intended impact on the share price.

In other words, apart from testing whether stock prices can affect the intensity of earnings management, we further show that the ability of investors to 'see through' and 'reverse out' the earnings management device is affected by market conditions. During high M&A activity phases, market participants are more likely to be misled, to inefficiently price value-irrelevant discretionary accruals and, when earnings are announced, to unintentionally reward share acquirers for engaging in earnings management.

The results suggest that the economic benefits achieved by engaging in earnings management during hot markets are indeed significant: for those acquirers engaging in aggressive accrual management, we estimate that the average increase in market value at the average level of such earnings management is almost 2.4% or £34 million. Other things equal, this will be associated with a corresponding reduction in the number of shares required in exchange by target shareholders (each share being worth more); and with correspondingly higher subsequent EPS for the acquirer.

In addition, our results indicate that the market typically attaches a premium to firms that beat analysts' earnings expectations even if these have been achieved through earnings management. Then, when stock-for-stock bids are subsequently announced, our results suggest that, in hot markets, the price gains achieved through earnings management are not reversed in the way signalling theory might predict.

The findings have important implications for both the earnings management and the merger incentives literature. First, they imply that in hot markets share prices can be distorted by earnings management, and that if the latter is skilfully deployed by the acquirer's executives, it could play a leading role in achieving more favorable exchange ratios in the context of share-swap acquisitions. This is consistent with Fama's semi-strong informational efficiency, where market participants are not expected to unravel opaque accounting adjustments which have not been publicly disclosed. But the process potentially undermines allocative efficiency (Meeks and Meeks, 2014): had acquirer managers not flattered their earnings record through accrual manipulation prior to the share bid, they may not necessarily have secured investors' support for the deal and been awarded control of the target.

Acknowledgments

We are thankful to Tim Bellis, Owain Evans and Geoffrey Whittington for valuable advice and suggestions. We gratefully acknowledge the comments of two anonymous referees and *JAPP* Editors Lawrence Gordon and Martin Loeb.

References

Abarbanell, J., Lehavy, R., 2003. Can stock recommendations predict earnings management and analysts' earnings forecast errors? J. Account. Res. 41, 1–31.
Amel-Zadeh, A., Meeks, G., Meeks, J.G., 2016. Historical perspectives on accounting for M&A. Account. Bus. Res. 46, 501–524.
Andrade, G., Mitchell, M., Stafford, E., 2001. New evidence and perspectives on mergers. J. Econ. Perspect. 15, 103–120.
Ang, J.S., Cheng, Y., 2006. Direct evidence on the market-driven acquisition theory. J. Financ. Res. 29, 199–216.
Antoniou, A., Arbour, P., Zhao, H., 2008. How much is too much: are merger premiums too high? Eur. Financ. Manage. 14, 268–287.
Archibald, T.R., 1972. Stock market reaction to the depreciation switchback. Account. Rev. 47, 22–30.
Ashurst, 2017. Collective Actions: UK Guide. Ashurst Quickguides, 26 July 2017.
Aw, M.S.B., Chatterjee, R.A., 2004. The performance of UK firms acquiring large cross-border and domestic takeover targets. Appl. Financ. Econ. 14, 337–349.
Ball, R., Bartov, E., 1996. How naïve is the stock market's use of earnings information? J. Account. Econ. 21, 319–337.
Barth, M., Elliott, J., Finn, M., 1999. Market rewards associated with increasing earnings patterns. J. Account. Res. 37, 387–414.
Bartov, E., Givoly, D., Hayn, C., 2002. The rewards to meeting or beating earnings expectations. J. Account. Econ. 33, 173–204.
Basu, S., Duong, T.X., Markov, S., Tan, E.J., 2013. How important are earnings announcements as an information source? Eur. Account. Rev. 22, 221–256.
Beaver, W.H., 1989. Financial Reporting: An Accounting Revolution, second ed. Prentice Hall, NJ.
Bernard, V., Thomas, J., 1990. Evidence that stock prices do not fully reflect the implications of current earnings for future earnings. J. Account. Econ. 13, 305–340.
Botsari, A., Meeks, G., 2008. Do acquirers manage earnings prior to a share for share bid? J. Bus. Financ. Account. 35, 633–670.
Brown, S.J., Warner, J.B., 1985. Using daily stock returns: the case of event studies. J. Financ. Econ. 14, 3–31.
Chan, K., Jegadeesh, N., Sougiannis, T., 2004. The accrual effect on future earnings. Rev. Quant. Financ. Account. 22, 97–121.
Collins, D.W., Pungaliya, R., Vijh, A., 2017. The effects of firm growth and model specification choices on tests of earnings management in quarterly settings. Account. Rev. 92, 69–100.
Comiskey, E., 1971. Market response to changes in depreciation accounting. Account. Rev. 46, 279–285.
Conn, R.L., Cosh, A., Guest, P.M., Hughes, A., 2005. The Impact on UK acquirers of domestic, cross-border, public and private acquisitions. J. Bus. Financ. Account. 32, 815–870.
Das, S., Zhang, H., 2003. Rounding-up in reported EPS, behavioral thresholds, and earnings management. J. Account. Econ. 35, 31–50.
Dechow, P.M., Ge, W., Larson, C.R., Sloan, R.G., 2011. Predicting material accounting misstatements. Contemp. Account. Res. 28, 17–82.
Dechow, P.M., Richardson, S.A., Sloan, R.G., 2008. The persistence and pricing of the cash component of earnings. J. Account. Res. 46, 537–566.
Dechow, P.M., Sloan, R.G., Sweeney, A.P., 1995. Detecting earnings management. Account. Rev. 70, 193–225.
Dechow, P.M., Sloan, R.G., Sweeney, A.P., 1996. Causes and consequences of earnings manipulation: an analysis of firms subject to enforcement actions by the SEC. Contemp. Account. Res. 13, 1–36.
DeFond, M.L., Park, C.W., 2001. The reversal of abnormal accruals and the market valuation of earnings surprises. Account. Rev. 76, 375–404.
Degeorge, F., Patel, J., Zeckhauser, J., 1999. Earnings management to exceed thresholds. J. Bus. 72, 1–33.
Dong, M., Hirshleiffer, D., Richardson, S., Teoh, S.H., 2006. Does investor misvaluation drive the takeover market? J. Financ. 61, 725–762.
Draper, P., Paudyal, K., 1999. Corporate takeovers: mode of payment, returns and trading activity. J. Bus. Financ. Account. 26, 521–558.
Erickson, M., Wang, S., 1999. Earnings management by acquiring firms in stock for stock mergers. J. Account. Econ. 27, 149–176.
Faccio, M., Masulis, R.W., 2005. The choice of payment method in European mergers and acquisitions. J. Financ. 60, 1345–1388.
Fama, E., 1970. Efficient capital markets: a review of theory and empirical work. J. Financ. 25, 383–417.
Felsted, A., Agnew, H., 2014. Tesco Reels as Basket of Numbers Fails to Add Up. Financ. Times, 23 September 2014.
Fields, T., Lys, T., Vincent, L., 2001. Empirical research on accounting choice. J. Account. Econ. 31, 255–307.

ARTICLE IN PRESS

Financial Reporting Council, 2017. https://www.frc.org.uk/Our-Work/Corporate-Reporting/Corporate-Reporting-Review/Entity-Specific-Public-Announcements.
Goergen, M., Renneboog, L., 2004. Shareholder wealth effects of European domestic and cross-border takeover bids. Eur. Financ. Manage. 10, 9–45.
Gong, G., Louis, H., Sun, A.X., 2008. Earnings management. Lawsuits, and stock-for-stock acquirers' market performance. J. Account. Econ. 46, 62–77.
Gore, P., Pope, P.F., Singh, A.K., 2007. Earnings management and the distribution of earnings relative to targets: UK evidence. Account. Bus. Res. 37, 123–150.
Gow, I.D., Ormazabal, G., Taylor, D.J., 2010. Correcting for cross-sectional and time-series dependence in accounting research. Account. Rev. 85, 483–512.
Griffiths, I., 1986. Creative Accounting. Unwin, London.
Gu, F., Lev, B., 2011. Overpriced shares, ill-advised acquisitions, and goodwill impairment. Account. Rev. 86, 1995–2022.
Hansen, R.G., 1987. A theory for the choice of exchange medium in mergers and acquisitions. J. Bus. 60, 75–95.
Harford, J., Li, K., 2007. Decoupling CEO wealth and firm performance: the case of acquiring CEOs. J. Financ. 62, 917–949.
Hartzell, J., Ofek, E., Yermack, D., 2004. What's in it for me? CEOs whose firms are acquired. Rev. Financ. Stud. 17, 37–61.
Hayn, C., 1995. The information content of losses. J. Account. Econ. 20, 125–153.
Hew, D., Skerratt, L., Strong, N., Walker, M., 1996. Post-earnings-announcement drift: some preliminary evidence for the UK. Account. Bus. Res. 26, 283–293.
Higgins, H.N., 2013. Do stock-for-stock merger acquirers manage earnings? Evidence from Japan. J. Account. Public Policy 32, 44–70.
Houge, T., Loughran, T., 2000. Cash flow is King? Cognitive errors by investors. J. Psychol. Financ. Mark. 1, 161–175.
Hribar, P., Collins, D.W., 2002. Errors in estimating accruals: implications for empirical research. J. Account. Res. 40, 105–134.
Jensen, M.C., 2005. Agency costs of overvalued equity. Financ. Manage. 34, 5–19.
Jones, J., 1991. Earnings management during import relief investigations. J. Account. Res. 29, 193–228.
Kravet, T., Myers, L.A., Sanchez, J.M., Scholz, S., 2015. Do financial statement misstatements facilitate corporate acquisitions? Available at SSRN: http://doi.org/10.2139/ssrn.2029953.
Kothari, S., Loutskina, E., Nikolaev, V., 2008. Agency theory of overvalued equity as an explanation for the accrual anomaly. Available at SSRN: http://doi.org/10.2139/ssrn.871750.
Kothari, S.P., Sabino, J.S., Zach, T., 2005. Performance matched discretionary accrual measures. J. Account. Econ. 39, 163–197.
Louis, H., 2004. Earnings management and the market performance of acquiring firms. J. Financ. Econ. 74, 121–148.
Maquieira, C.P., Megginson, W.L., Nail, L., 1998. Wealth creation versus wealth redistributions in pure stock-for-stock mergers. J. Financ. Econ. 48, 3–33.
Martin, K., 1996. The method of payment in corporate acquisitions, investment opportunities, and managerial ownership. J. Financ. 51, 1227–1246.
Martynova, M., Renneboog, L., 2008. A century of corporate takeovers: what have we learned and where do we stand? J. Bank. Financ. 32, 2148–2177.
Massoudi, A., 2016. Banks, Lawyers and PR Firms in line for Bumper Payday from Brewers' Tie-up. Financ. Times, 27 August 2016.
Meeks, G., Meeks, J.G., 2014. Mergers, accountants, and economic efficiency. J. Ind. Bus. Econ. 41, 121–136.
Moeller, S.B., Schlingemann, F.P., 2005. Global diversification and bidder gains: a comparison between cross-border and domestic acquisitions. J. Bank. Financ. 29, 533–564.
Mulford, C., Comiskey, E., 2005. The Financial Numbers Game: Detecting Creative Accounting Practices. Wiley, New York.
Myers, S.C., Majluf, N.S., 1984. Investment and financing policy with differential information. J. Financ. Econ. 13, 187–221.
Nelson, R., 1959. Merger Movements in the American Industry. NBER, New York.
Olympus Corporation, 2011. The Third Party Committee, Investigation Report. 6 December 2011.
Payne, J.L., Robb, S., 2000. Earnings management: the effect of ex ante earnings expectations. J. Account. Audit. Financ. 15, 371–392.
Peasnell, K.V., Pope, P.F., Young, S., 2000. Accrual management to meet earnings targets: UK evidence pre- and post-Cadbury. Br. Account. Rev. 32, 415–445.
Ram, A., 2016. Tesco Probe Raises Supply Chain Concerns. Financ. Times, 1 February 2016.
Rangan, S., 1998. Earnings management and the performance of seasoned equity offerings. J. Financ. Econ. 50, 101–122.
Rhodes-Kropf, M., Viswanathan, S., 2004. Market valuation and merger waves. J. Financ. 59, 2685–2718.
Scherer, F.M., Ross, D., 1990. Industrial Market Structure and Economic Performance. Houghton Mifflin, Boston.
Schilit, H., Perler, J., 2010. Financial Shenanigans: How to Detect Accounting Gimmicks and Fraud in Financial Reports, third ed. McGraw-Hill.
Schipper, K., 1989. Commentary on earnings management. Account. Horiz. 3, 91–102.
Sherman, H., Young, S.D., Collingwood, H., 2003. Profits You Can Trust: Spotting and Surviving Accounting Landmines. Prentice Hall, N.J.
Shiller, R., 2015. Irrational Exuberance, third ed. Princeton University Press, Princeton.
Shleifer, A., Vishny, R.W., 2003. Stock market driven acquisitions. J. Financ. Econ. 70, 295–311.
Sloan, R.G., 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? Account. Rev. 71, 289–315.
Smith, T., 1996. Accounting for Growth. Century Business, Random House, London.
Subramanyam, K.R., 1996. The pricing of discretionary accruals. J. Account. Econ. 22, 249–281.
Suk, D.Y., Sung, H.M., 1997. The effects of the method of payment and the type of offer on target returns in mergers and tender offers. Financ. Rev. 32, 591–607.
Treasury Committee, 2012. Evidence to the Committee, FSA Report into the Failure of RBS, Q83ff. 24 January 2012.
Travlos, N.G., 1987. Corporate takeover bids, methods of payment, and bidding firms' stock returns. J. Financ. 42, 943–963.
United Nations Conference on Trade and Development (UNCTAD), 2015. World Investment Report 2015: Reforming International Investment Governance. United Nations Publication, New York and Geneva.
Vandevelde, M., Thomas, N., 2016. Tesco Criticized Over Treatment of its Suppliers. Financ. Times, 27 January 2016.
Walker, M., 2013. How far can we trust earnings numbers? What research tells us about earnings management. Account. Bus. Res. 43, 445–481.
Watts, R., Zimmerman, J., 1986. Positive Accounting Theory. Prentice Hall, Englewood Cliffs, N.J.
Wilson, M., Wu, Y., 2011. Do publicly signalled earnings management incentives affect analyst forecast accuracy? Abacus 47, 315–342.
Xie, H., 2001. The mispricing of abnormal accruals. Account. Rev. 76, 357–373.
Young, S., 2008. Discussion of do acquirers manage earnings prior to a share for share bid? J. Bus. Financ. Account. 35, 671–678.
Zach, T., 2003. Inside the accrual anomaly. Available at SSRN: http://doi.org/10.2139/ssrn.417781.