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**Stock price reaction to M&A announcements:
Evidence from the London Stock Exchange**

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Abstract

We investigate short-term investor reaction to initial press releases regarding mergers and acquisitions in the London Stock Exchange. Announcements are sorted by whether the firm is a bidder or a target, by whether the announcement refers to an acquisition or a merger, by investor sophistication, by the level of information disclosure, by whether the announcements generate a positive or negative reaction, and by whether the initial reaction is strong or of a lower magnitude. The results suggest that investors generally react efficiently; however, they may at times overreact to merger and acquisition announcements and reverse their behavior within a few days. Further analysis indicates that the documented short-term reversals are due to very few information signals (about 10% of the sample) that generate a high magnitude reaction on the event day, i.e. signals with strong information content. The only pattern that is persistent is a return momentum for announcements about smaller acquirers that disclose financial information and generate a positive reaction on the event day.

JEL Classification: G1

Keywords: Mergers and acquisitions, overreaction, underreaction, market efficiency.

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1. Introduction

The literature on stock return behavior around Merger and Acquisition (M&A) announcements is extensive and covers many aspects and implications of takeover activity. The results indicate that, on average, target firm shareholders receive positive and statistically significant abnormal returns following M&A announcements, while acquirer firm shareholders receive negative, zero, or small positive returns (depending on sample, country, industry, methodology, etc).² Most previous studies focus on wealth effects for shareholders either in the short or the long run, rather than investor reaction to the information contained in the announcement, and typically employ an n -day window around an M&A announcement in order to capture the initial appearance of the event in the press. Since M&A announcements are news items that convey important information about the value of the firm they should generate a significant price reaction on the announcement day, in an efficient market. For the days following the announcement day we should not be able to observe predictable return patterns such as momentum or reversal, which could imply that investors underreact or overreact to M&A information.

Previous research indicates that investors may either overreact to news and subsequently reverse their actions or react slowly and with a drift. This type of behaviour may lead to profitable contrarian or momentum³ strategies (DeBondt and Thaler, 1985; Jegadeesh, 1990; Lehman, 1990; Dissanaik, 1997; Asness 1997; Conrad and Kaul 1998; Jegadeesh and Titman 1995; among others). Other studies find that on many days of excessive market movements there is no apparent information (Mitchell and Mulherin, 1994) and that the link between information in the media and excessive movements in equity

² See section 2 for a brief review of M&A studies.

³ A contrarian strategy is short past winners and long past losers, while a momentum strategy is the opposite.

prices is not very strong (Cutler et al. 1989). Richards (1997) finds medium-term momentum and long-term contrarian behaviour for national stock market portfolios, while Lasfer et al. (2003) examine 39 international market portfolios and find evidence consistent with short-term underreaction following extreme events. The findings of Agrawal et al. (1992) on acquiring firms in M&As are inconsistent with post-announcement drift effects and underreaction to information, however, Ikenberry et al. (1995) report a slow investor reaction to tender offers. Rational explanations for reversals in stock returns range from size effects (Zarowin, 1990) to the multidimensionality of risk (Fama and French, 1996) and market frictions (Conrad and Kaul, 1993; Cox and Peterson, 1994). Chan (1988) and Ball and Kothari (1989) argue that changes in equilibrium required returns explain contrarian profits. Explanations for medium-term underreaction could be book-to-market effects (Asness 1997), transaction costs (Lesmond et al. 2004), analyst coverage (Hong et al. 2000), or volume (Lee and Swaminathan 2000), while Lo and MacKinlay (1990) stress the role of lead-lag effects. Other authors build on findings from empirical psychology studies (e.g. Kahneman and Tversky, 1982) in order to explain these phenomena from a behavioral point of view (Barberis et al. 1998; Daniel et al. 1998; Lakonishok et al. 1994). For example, Barberis et al. (1998) exploit the representativeness and conservatism heuristics and present a model where agents underreact to information low in weight and overreact to strong and salient information.

This paper employs data from the London Stock Exchange (LSE) and concentrates on investor reaction following the initial release of M&A information. An interesting feature of the UK equity market is that about 90% of takeover activity relates to private and subsidiary targets (Faccio and Masulis, 2005; Doukas and Petmezas, 2007) and also that about 80% of bids are cash financed (Faccio and Masulis, 2005) in sharp contrast to the US market where about 70% are stock financed (Andrade et al., 2001).

These figures are consistent with our dataset: about 72% of acquisition announcements for FTSE100 bidders involve cash payment (this grows to about 82% for FTSE250 bidders). Note that for about 20% of sample announcements financial details are not disclosed. Thus, bids may be more difficult to evaluate by the market (since they involve private targets) and, in addition, bidders seem to be overconfident and perceive their firm to be undervalued (since there is a high frequency of cash offers). We contribute to the relevant literature as follows. Firstly, instead of using a window around the announcement in order to capture the first appearance of the M&A in the public domain⁴ we identify day zero, i.e. the exact day the information signal about a merger or acquisition reaches the market. This is done by manually screening all AFX News press releases regarding M&A announcements for the period between 1997 and 2006 (a total of 24118 news items) in order to arrive at the very first information release (3864 initial announcements concerning exclusively takeover activity). AFX News is a wholly owned subsidiary of Thomson Financial and provides real time and independent international economic news coverage all over the world and the products are available over all common open news platforms; it operates 13 AFX News bureaus and over 5,000 journalists all over the world. The database includes not only official announcements of the firms involved but also items such as newspaper stories, rumors, interviews of officials involved in a transaction, etc. In other words, the “first information release day” in our study need not necessarily be the day of the official statement by the companies involved, since in many cases this information is already in the public domain. This way we are able to identify and isolate the very first day that information about an M&A is released to the market and subsequently study investor reaction to this event. Section 3 discusses these issues in more detail.

⁴ Fuller et al. (2002), for instance, point out that a 5-day window can capture the first announcement of an M&A each time for every 500 announcements. This window is also often used in empirical studies; see Doukas and Petmezas (2007) for a recent study for the UK market.

Secondly, we sort M&A announcements by the precision of the financial information contained in the press release, in order to investigate whether pricing efficiency increases with information precision. Prior work indicates that informational events have many dimensions. For instance, Pritamani and Singal (2001), among others, focus on magnitude, precision, and dissemination (p. 632). The importance of a signal (magnitude) is usually captured by the price change which proxies for changes in the consensus expectations of the market; the precision of the signal is often captured by the trading volume which proxies for changes in heterogeneous expectations; the dissemination dimension relates to the number of market participants that receive the signal (for more details see also, Karpoff, 1986; Kim and Verrecchia, 1991; Ryan and Taffler, 2004). In this paper we capture the precision of an information signal with a directly observable qualitative variable, instead of using a proxy such as trading volume as in previous studies: we use disclosure (or not) of financial information about the merger or acquisition. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information) and imprecise information signals (those that do not disclose financial information).⁵ As regards the dissemination dimension note that the news items examined in our study are real time information items available over all common open news platforms and, by implication, achieve the maximum level of dissemination. In addition, we further classify announcements by the importance of the information signal, i.e. the magnitude of the reaction on the event-day and argue that magnitude may be a proxy for strong and salient information. More specifically, we define as a High

⁵ For instance, typical non-disclosure initial announcements (randomly selected) are: “LONDON (AFX) - WPP Group PLC said it has bought Quinn Gillespie & Associates, the Washington DC-based bi-partisan public affairs firm, *for an undisclosed sum*. Quinn Gillespie had revenues of 12.5 mln usd and net assets of 2.5 mln last year (9/12/2003)” or “LONDON (AFX) - DS Smith PLC is buying German 'bag-in-box' liquid packaging group Zewathener GmbH from SCA Packaging and the current management, represented by Paku-Pack Papier-und Kunststoff Verpackungen GmbH.SCA owns 51 pct of the group the management team the remaining 49 pct. *No financial details were disclosed (16/7/2002)*”.

Magnitude announcement every positive (negative) announcement that generates an event-day abnormal return equal to or above (below) the mean event-day abnormal return plus (minus) one standard deviation. As we show later, this is an important step since it highlights an interesting pattern and helps explain documented predictable return patterns.

Thirdly, we study separately the behavior of sophisticated and unsophisticated investors around M&A announcements, in order to investigate whether investor sophistication and arbitrage costs affect investor behavior and return predictability around M&A announcements. We proxy for investor sophistication with the market capitalization of the firms involved; that is, larger capitalization stocks are assumed to be held predominantly by more sophisticated investors while smaller capitalization stocks are assumed to be held predominantly by less sophisticated investors. Lakonishok, et al. (1994) argue that larger stocks are monitored more closely and thus priced more efficiently than smaller stocks and also that large stocks present greater interest for institutional investors in terms of implementable trading strategies.

Fourthly, we sort M&A announcements by whether the market reaction to information on the event day is positive or negative, in other words by whether the market perceives the announced transaction as creating or destroying value for the firm. This serves three purposes. Firstly, there is evidence to suggest that equity prices react more strongly to bad news than to good news. For instance, Bremer and Sweeney (1991) and Atkins and Dyl (1990) consider individual stock price reaction following extreme event days and find that when there is a price drop of at least 10%, a price reversal follows. Cox and Peterson (1994) point out that the magnitude of the reversal decreases through time. Schnusenberg and Madura (2001) investigate short-term reaction for six US stock indexes and find one-day underreaction

and significant reversals over a 60-day period following negative market shocks. Collet (2004) finds that market reaction is considerably greater for negative company trading statement announcements in the UK. Given that roughly half of our sample announcements generate negative abnormal returns on day zero (in other words, negative investor reaction) it should be very interesting to investigate whether investor behavior is different for positive and negative M&A announcements.

Secondly, there is the issue of the averaging-out effect that may have an impact on results. Separating announcements by positive and negative day zero returns may help highlight important issues. Consider for example the announcement day abnormal return for large capitalization acquirers in our sample: when we group all announcements together this turns out to be, on average, about 0.05% with a *t*-statistic of 0.75. This suggests that, on average, acquirer firm shareholders in the LSE earn a return of about zero on announcement day and also that stock prices do not react (significantly) to this information. Closer analysis, however, reveals that roughly half of the announcements result in positive event day abnormal returns of about 1.5% and roughly half of the announcements result in negative event day abnormal returns of about 1.4%. Both are highly statistically significant. In other words, prices do react to this type of information and for roughly half the acquirers there are statistically and economically positive abnormal returns; which is a quite different conclusion from the conclusion we would draw if we relied on average values. Finally, this way we are able to indirectly investigate the notion that when acquirers use cash as a form of payment the deal is considered to be value creating for their shareholders. More specifically, M&A research suggest that acquirers that make cash offers achieve zero or positive abnormal returns for their shareholders while acquirers making stock offers achieve abnormal negative returns (Travlos, 1987; Andrade et al., 2001; among others). As discussed above, in the UK market about 70% to 80% of the deals are cash financed yet we find that only half of

our sample bidder announcements generate positive investor reaction on day zero. This inconsistency seems to indicate that there may be other factors contributing to price reaction around mergers.

Fifthly, contrary to many earlier studies, we distinguish between the term 'acquisition' and 'merger' and examine acquisition and merger announcements separately. The reason for this is twofold: on the one hand, merger announcements typically disclose more detailed financial information about the deal and are more precise than acquisition announcements. On the other hand, listed UK companies often acquire (sell) small parts of other (own) businesses and/or subsidiaries, projects, plants, etc, and these deals are usually of much lower value compared to outright mergers between firms. Thus, grouping these announcements together could result in the loss of information about each corporate action and affect the conclusions. The distinction between each type of announcement is based on the information contained in the initial press release, in other words, we classify as a merger announcement every announcement that distinctly states that the acquired entity will be merged with the existing business.

To anticipate the results, we find that investors in UK stocks generally seem to react efficiently to merger and acquisition announcements; however, they may at times overreact or underreact to information. For instance, for announcements about large bidders that do not disclose financial information and generate negative announcement-day reaction, a 1.34% day zero abnormal return is followed by a (statistically significant at 5%) correction of approximately 0.86% during the following days, on average. Furthermore, for negative large firm disposal announcements that disclose financial information a 1.21% day zero abnormal return is followed by a (statistically significant at 5%) correction of approximately 0.60%, on average. For smaller capitalization firms, investors generally also react efficiently to acquisition announcements except for announcements that disclose financial

information where we observe a (statistically significant at 5%) momentum for positive announcements and a reversal for negative announcements. Also when smaller firms become targets and the announcement is positive and imprecise the event day abnormal return is reversed during the following days. Investor reaction following merger announcements seems efficient for large capitalization firms although investors in smaller capitalization firms seem to overreact and correct their actions following positive and precise merger announcements: a 9.14% event day abnormal return is reduced by approximately 2.35% the following days. Further analysis suggests that the documented reversals are due to very few announcements (about 10% of the sample) that generate a high magnitude reaction on the event day. In other words, what would appear as a return irregularity in an event study is actually the manifestation of relatively few observations with a strong event day reaction. The only pattern that we are unable to explain is a return momentum for announcements about smaller acquirers that disclose financial information and generate a positive reaction on the event day. Note that our results cannot be attributed to “hot” M&A markets or periods of merger waves since M&A activity is relatively stable throughout the sample period.⁶ Overall, the findings indicate a highly efficient market regarding investor reaction to M&A announcements, irrespective of the precision of the information contained in the information signal and investor sophistication, with the exceptions discussed above.

2. Literature review

Most studies⁷ agree that returns of target firms are, on average, positive and statistically significant following merger announcements despite differences in the types of mergers⁸ sample countries,

⁶ Section 3 discusses this issue further.

⁷ This section discusses a few indicative studies of M&A activity. For more comprehensive reviews see Campa and Hernando (2004), Bruner (2002), Jensen and Ruback (1983).

⁸ Target firm shareholders in tender offers often receive higher returns (Jensen and Ruback, 1983).

industry, and empirical methodology. This pattern seems to persist though time, for instance, early studies of US takeover activity report target firm returns in the range of 20 to 30% (see Dodd and Ruback, 1977; Jensen and Ruback, 1983, among others). Later studies come to similar conclusions: Houston et al. (2001) study mergers in the US banking industry and find target firm cumulative abnormal returns between 15% and 24%⁹; Maquieria et al. (1998) examine US stock-for-stock mergers and report abnormal returns to target shareholders of around 40%; Goergen and Renneboog (2004) analyze large acquisitions in 18 European countries and report cumulative abnormal returns between 9% and 21% depending on the window length examined; Danbolt (2004) focuses on UK acquisitions and reports abnormal returns between 17.82% and 31%.

The empirical evidence on acquirer firms is mixed: many studies find negative abnormal returns following merger announcements (Goergen and Renneboog, 2004; Doukas et al., 2002; Morck et al., 1990; Houston et al., 2001; Eckbo and Thorburn, 2000; Mulherin and Boone, 2000; Amihud et al., 1986; among others) while quite a few studies find zero or small positive returns (Dodd and Ruback, 1977; Jarell and Poulsen, 1989; Smith and Kim, 1994; Doukas, 1995; Maquieria et al., 1998; Kohers and Kohers, 2000; among others). Bruner (2002) argues that, on average, shareholders of acquirer firms earn zero market-adjusted returns and points out that buyer firms are typically larger than target firms. Note that the results of studies that examine the long-term performance of acquirers indicate significant and negative long-term cumulative abnormal returns (Kohers and Kohers, 2000; Gregory, 1997; Rau and Vermaelen, 1998; Loughran and Vijh, 1997; Agrawal et al., 1992; Asquith, 1983), although there is evidence to suggest that post-merger financial performance is improved (Healy et al., 1992) especially for firms that buy smaller targets, use long-term manager incentives and diversify (Ramaswamy and Waagelein, 2003). Many authors also examine the combined returns of targets and buyers, in other

⁹ DeLong (2001) studies transactions in the US that involve at least one bank and arrive at similar results.

words the potential for value creation from M&As, and the results suggest positive combined returns (see for example, Houston et al., 2001; Berkovitch and Narayanan, 1993) although there is also evidence to indicate that value creation may be decreasing since the second part of the 1990s (Beitel and Schiereck, 2001). Mitchell, et al. (2004) find evidence consistent with price pressure around mergers caused by short-lived shifts in uninformed demand and estimate that nearly half of the negative announcement reaction (for acquirers) is caused by merger arbitrage short-selling.

Travlos (1987) distinguishes between acquirers that make cash offers and acquirers making stock offers: whereas the former achieve normal returns for their shareholders the latter achieve negative returns (similar findings are reported in Huang and Walkling, 1989 and Andrade et al., 2001). This is consistent with the signaling hypothesis where managers possess superior information about the value of the firm and opt for a cash offer if the firm is undervalued and for a stock offer if the firm is overvalued, in other words cash is good news for investors (see also Myers and Majluf, 1984). Martin (1996) also shows that firms that use shares as a form of payment tend to have lower book-to-market ratios than firms that use cash. Whether the M&A is local or cross-border also plays a role in post-mergers returns: contrary to the evidence on local acquisitions Doukas and Travlos (1988) find significant and positive abnormal returns for US companies that acquire firms in other countries and Manzon et al. (1994) argue that this type of abnormal return is related to international tax differences. In addition, evidence indicates that non-US firms that acquire US targets also enjoy significant positive returns (Eun, Kolodny and Scheraga, 1996).

Other studies concentrate on the timing of M&A activity and show not only that there are periods of high and low activity, i.e. merger waves (e.g. Holmstrom and Kaplan, 2001), but also that periods of

higher activity are associated with higher market valuations (Maksimovic and Philips, 2001). Rosen (2006) finds that the reaction of the market to a merger announcement is related positively to the reaction to recent announcements and the overall market, i.e. a merger momentum, and in addition, that the long-run performance of bidder returns for mergers that occur in “hot markets” is lower than mergers that do not. Rhodes-Kropf and Viswanathan (2004) point out that during high M&A activity periods and rising markets firms tend to use stock as a form of payment, and show that deviations from fundamental values for both bidders and targets can, in a rational way, result in a relation between M&A activity and market valuation.

3. M&A Announcements, data and testing methodology

We examine all M&A announcements for FTSE350 companies in the AFX News database (available at Perfect Analysis Database) during the period between June 1997 and June 2006. AFX News Ltd (a wholly owned subsidiary of Thomson Financial) provides real time and independent international economic news coverage all over the world and the products are available over all common open news platforms.¹⁰ The FTSE 350 comprises of the companies in the FTSE 100 and the FTSE 250 index. The FTSE 100 companies are the 100 firms with the highest market capitalization representing approximately 80% of the UK equity market, while the FTSE 250 companies are the 250 companies of medium capitalization and represent about 17% of the UK equity market total capitalization. In other words, the 350 companies in these two indexes account for approximately 97% of UK total market capitalization.¹¹ The initial search resulted in 24118 M&A announcements. These include announcements of a sale or a purchase of a whole company or an interest/part of a company/business

¹⁰ For more details see: www.afxnews.com

¹¹ See <http://www.ftse.com> for more details.

by one of the FTSE350 firms (or a subsidiary), share buyback programs by companies, director's trades, announcements of local or international mergers, UK and European regulator announcements about a merger or an acquisition, newspaper stories about M&As, etc.

After careful analysis we filtered out a number of irrelevant announcements and arrived at 3864 initial announcements concerning exclusively takeover activity. More specifically, the excluded announcements can be categorized as follows: (a) multiple announcements for the same transaction that occur on the day(s) following the initial announcement of a merger or acquisition; (b) regulatory announcements (Secretary of State for Trade and Industry/UK Office of Fair Trade/European Commission, etc) inviting comments/referring (or not referring)/clearing an already announced M&A; (c) newspaper announcements that are not confirmed by a subsequent announcement in the day(s) following the announcement, or are disconfirmed by the companies supposedly involved in the announced M&A;¹² (d) announcements that relate to companies purchasing their own shares for cancellation, or directors transactions; (e) M&A announcements that occur on the same day as earnings/dividend announcements and/or annual general meetings.¹³ When a newspaper report cites a specific source and is confirmed by the companies involved within the following day(s) we treat the newspaper announcement as the initial announcement of the M&A. If it appeared in a Sunday paper we use the following Monday as the event day (day zero). Announcements are classified as Buy or Sell depending on whether the firm buys (acquirer) another firm/business/asset or interest/shares in a firm locally or abroad, etc., or sells (becomes a target) a subsidiary, part of its business locally or abroad,

¹² We find that when in an M&A newspaper report 'no sources' or 'unnamed sources' are cited, the transaction is seldom confirmed by the firm during the following day(s), at least within the AFX sample of announcements. Also, many M&A newspaper reports for the major FTSE100 companies are often vague (e.g. company X plans acquisitions in order to expand/strengthen the position in the US/Asia/Russia/China, etc; or company X plans to withdraw from USA/Asia/Russia/China, etc). These announcements are excluded from the sample.

¹³ These announcements are excluded in order to avoid the confounding effect on share prices from other informational events that occur on the same day.

shares/interest in a firm/asset, etc. Furthermore, announcements are classified depending on whether the announcement reveals financial information about the transaction or not.¹⁴

[INSERT TABLE 1 ABOUT HERE]

Table 1 presents the available sample announcements sorted by whether a FTSE100/FTSE250 company is announcing that it is acquiring/selling/merging and by whether financial information of the deal is disclosed in the announcement (Panel A). In addition, announcements are sorted by the method of payment (Panel B). For instance, line one in Panel A indicates that there are 1274 initial announcements that a FTSE100 firm is acquiring another firm, and from these 1274 announcements 955 disclose financial information about the deal while 319 do not. Furthermore, line one in Panel B indicates that from the 955 bidder announcements of FTSE100 firms that disclose financial information 919 involve cash as a method of payment while 36 involve other means (e.g. mixed, stock, etc). Similarly, line four in Panel A indicates that there are 1102 initial announcements that a FTSE250 firm is acquiring another firm, and from these 1102 announcements 940 disclose financial information about the deal while 162 do not. Line three in Panel B indicates that from the 940 bidder announcements of FTSE250 firms that disclose financial information 905 involve cash as a method of payment while 35 involve other means (e.g. mixed, stock, etc). As discussed in the introduction, these figures are consistent with the results of earlier studies for the UK market (Faccio and Masulis, 2005; Doukas and Petmezas, 2007). Panel C in Table 3 presents available announcements as a percentage of total available announcements. It becomes apparent that the sample period chosen for the analysis is relatively stable as regards M&A activity and merger waves, that is, yearly announcements vary around

¹⁴ As discussed in the introduction, a typical announcement of this type would be: “company X said it bought company Y for an undisclosed sum....” or “company X said it bought company Y..... No financial details were disclosed.”

10% per year and for no year(s) is there a notable increase or decrease in M&A activity (note that year 1997 is between June and December, while year 2006 is between January and June). By comparison, in the US over the period 1963 to 1964 there were 3311 acquisition announcements and the following period 1968 to 1969 there were 10569 acquisition announcements; the period 1979 to 1980 there were about 4000 acquisition announcements and in 1999 alone 9278 announcement (Rhodes-Kropf and Viswanathan, 2004, p. 2658). In other words, during “hot” M&A markets announcements tend to double or treble compared to other more stable periods. This is not the case with our dataset, which suggest that the findings cannot be attributed to periods of merger waves, merger momentum, or “hot” merger markets, although the later years in the sample seem to have somewhat higher activity.

Stock returns are defined as the first differences of log price levels and the abnormal return of stock i on day t (AR_{it}) is defined as the difference between the return of stock i on day t (R_{it}) and the market return (R_{Mt}) as follows:¹⁵

$$AR_{it} = R_{it} - R_{Mt} \quad (1)$$

Next we compute the Cumulative Abnormal Returns (CAR) for the following fifteen days ($t=1, 2, 3, \dots, 15$) for each announcement and each stock:

$$CAR_{it} = \sum_{t=1}^{15} AR_{it} \quad (2)$$

We compute the Average Cumulative Abnormal Returns ($ACAR$) for each type of announcement as:

$$ACAR_{it} = \frac{1}{N} \sum_{n=1}^N CAR_{it} \quad (3)$$

¹⁵ See also Doukas & Petmezas (2005) or Fuller et al. (2002) for a similar definition of abnormal returns. In order to proxy for the market portfolio we employ the FTSE350 Index. As discussed above, this portfolio accounts for approximately 97% of UK total market capitalization.

The statistical significance of the *ACARs* is evaluated with the *t*-statistic $t = \frac{\overline{ACAR}}{\sigma / \sqrt{N}}$, where σ is the standard deviation of the *CARs* and *N* is sample size.

If investors react efficiently to the information contained in M&A announcements then stock prices should adjust to the new levels immediately and no return reversal or continuation should be observed on the day(s) following the announcement (i.e. *ACARs* should be statistically insignificant). If investors overreact to M&A announcements a positive (negative) event day reaction should be followed by a decline (increase) in prices in the following day(s); that is, the subsequent *ACARs* should be statistically significant and of the opposite sign (return reversal). If investors underreact to M&A announcements a positive (negative) event day reaction should be followed by an increase (decline) in prices in the following day(s); that is, the subsequent *ACARs* should be statistically significant and of the same sign (return continuation).

4. Results

4.1. Market reaction to acquisition announcements

Table 2 reports market-adjusted returns for day zero and day one, and *ACARs* for day two until day fifteen subsequent to the announcement for FTSE100 (Panel A) and FTSE250 (Panel B) stocks. In addition we report *ACARs* for one and two days before the announcement. Large capitalization acquirers (Panel A, column two) seem to command, on average, a 0.05% market-adjusted return on day zero which grows to approximately 0.38% fifteen days following the announcement of an acquisition. The interesting finding is that announcement day returns are not statistically different from zero (*t*-

statistic: 0.75) indicating an insignificant market reaction¹⁶ while the *ACARs* become significant from day two onwards (*t*-statistic: 2.11) and remain significant until day fifteen (*t*-statistic: 2.67). For FTSE250 acquirer stocks (Panel B, column 2): acquirers command a day zero market-adjusted return of 0.33% (*t*-statistic: 3.48) which is followed by a 0.64% (*t*-statistic: 3.79) *ACAR* by day fifteen, i.e. a short-term return continuation. When combined, these figures imply a return of approximately 1.00% for the [0, 15] day window. Note that FTSE250 stock *ACARs* are not only of the same sign as the day zero returns but also statistically significant at the 5% every day until day fifteen. The magnitude of the abnormal returns is in line with findings of recent studies for the UK market: Doukas and Petmezas (2007) examine M&A announcements for the 1980 to 2004 period and report an average acquirer return for the [2, +2] day window of 1.00%.

By contrast, the stock price reaction to announcements that a FTSE350 firm is the target of an acquisition and/or is selling an asset/unit/subsidiary/project is consistent with an informationally efficient market. More specifically, the day zero market-adjusted return for FTSE100 firms (Panel A, column 3) is approximately 0.37% and highly significant (*t*-statistic: 4.40) and subsequent *ACARs* are statistically insignificant, at the 5% level. For FTSE250 targets (Panel B, column 3) the day zero abnormal return is 1.44% and statistically significant (*t*-statistic: 7.14) and the fifteen day *ACAR* is 0.21%, indicating an abnormal return of about 1.65% for the [0, 15] day window. *ACARs*, however, following the announcement are not statistically significant. There is one further issue with the results for smaller targets: there are statistically significant returns for the two days preceding the announcement day (suggesting leakage of information to the market).

¹⁶ We shall see in the following sub-section that this is the result of averaging: when announcements are sorted on whether the reaction on announcement day is positive or negative the day zero return is highly significant.

[INSERT TABLE 2 ABOUT HERE]

4.2. Precise/imprecise information and positive/negative reaction

So far, the results are consistent with earlier empirical findings that returns are higher for target firm shareholders and also indicate that the market, on average, reacts more efficiently to information releases regarding target firms compared to information releases regarding acquirers. More specifically, a return continuation is detected for acquirer firm stock. An interesting question is whether this pricing inefficiency arises due to imprecise announcements, i.e. announcements that do not disclose financial information about the deal. This is a reasonable hypothesis since it may well be that as more information becomes available the market responds in the same direction as to the initial announcement. In addition, since there is evidence to suggest that investors react differently to good and bad news, it may be interesting to examine announcements that generate positive and negative market reaction separately.

To this end, Tables 3 and 4 report the share price reaction to announcements for acquirer and target firms respectively, only this time announcements are sorted by whether the announcement is precise or imprecise and whether the day zero reaction is positive or negative. For FTSE100 acquirers (Table 3, Panel A) the announcement day return is statistically significant and approximately the same for precise and non-precise announcements. For example, for positive information signals the announcement day abnormal return is approximately 1.54% (t -statistic: 19.21) for precise signals and 1.58% (t -statistic: 9.86) for imprecise signals, while for negative information signals the announcement day abnormal return is approximately -1.42% (t -statistic: -20.56) for precise signals and -1.34% (t -

statistic: -13.84) for imprecise signals. For negative and imprecise signals, however, there is a statistically significant (at the 5% level) reversal, i.e. there are positive and statistically significant *ACARs* between days two and fifteen (day fifteen *ACAR* is 0.84% with a *t*-statistic of 2.24). For FTSE250 acquirers (Table 3, Panel B) the announcement reaction is statistically significant and higher than FTSE100 acquirers. For example, for positive information signals the announcement day abnormal return is approximately 2.09% (*t*-statistic: 16.53) for precise signals and 1.82% (*t*-statistic: 8.73) for imprecise signals, while for negative information signals the announcement day abnormal return is approximately -1.65% (*t*-statistic: -15.76) for precise signals and -2.02% (*t*-statistic: -7.89) for imprecise signals. For this group the inefficiency occurs for precise signals: there is a momentum following positive announcements (a further 1.02% is added by day fifteen to the initial abnormal return) and a reversal for negative announcements (approximately 0.60% by day ten).

[INSERT TABLE 3 ABOUT HERE]

[INSERT TABLE 4 ABOUT HERE]

When the announcement involves a FTSE100 disposal (Table 4, Panel A) the announcement reaction is approximately the same as for FTSE100 acquisitions: for positive information signals the announcement day abnormal return is approximately 1.81% (*t*-statistic: 14.57) for precise signals and 1.48% (*t*-statistic: 8.98) for imprecise signals, while for negative information signals the announcement day abnormal return is approximately -1.21% (*t*-statistic: -15.48) for precise signals and -1.36% (*t*-statistic: -8.08) for imprecise signals. For large firm disposals, however, there seems to be a statistically significant return reversal for negative and precise announcements: a 0.60% is “corrected” to the initial -1.21% day zero return. For FTSE250 targets (Table 4, Panel B) the announcement reaction is much

higher (for positive announcements) compared to FTSE250 acquirers. For example, for positive information signals the announcement day abnormal return is approximately 3.06% (*t*-statistic: 12.31) for precise signals and 5.58% (*t*-statistic: 5.20) for imprecise signals, while for negative information signals the announcement day abnormal return is approximately -1.63% (*t*-statistic: -10.47) for precise signals and -1.45% (*t*-statistic: -6.28) for imprecise signals. For this group of announcements there seems to be an overreaction and subsequent return reversal only for positive imprecise information; that is, the 5.58% initial return is reduced by a (statistically significant at the 5%) 1.07% by day four. This finding, however, must be interpreted with some caution since the sub-sample is only 51 announcements.

4.3. Reaction to merger announcements

Table 5 reports the same results as above but this time only merger announcements are included in the sample. For FTSE100 companies (Panel A) the announcement day return is relatively high for positive announcements (4.98% for precise signals and 2.98% for imprecise signals) and somewhat lower in magnitude for negative announcements (-3.38% for precise signals and -0.87% for imprecise signals). Investor reaction seems to be consistent with the efficient market hypothesis since in no case are the subsequent *ACARs* statistically significant. For FTSE250 companies (Panel B) the announcement day return is also high for positive announcements (9.14% for precise signals and 3.75% for imprecise signals) and lower in magnitude for negative announcements (-3.41% for precise signals and -2.06% for imprecise signals). There is some evidence of return reversal for positive and precise merger

announcements between days five and fifteen, which is not surprising given that the event day returns are so high.¹⁷

[INSERT TABLE 5 ABOUT HERE]

4.4. Are the predictable patterns due to High Magnitude signals?

So far the results indicate that investors in the LSE may at times overreact or underreact to M&A announcements and that pricing efficiency does not necessarily improve with investor sophistication and disclosure of financial information. For example, we find that investors in large capitalization firms reverse their behavior following negative and imprecise acquisition announcements and negative and precise sell-off announcements. At the same time, investors in smaller capitalization acquirers seem to underreact to positive and precise and overreact and subsequently reverse their behavior following negative and precise announcements. There is also some evidence that investors in small targets overreact and reverse following positive and imprecise announcements.

An important question that arises at this stage is whether these predictable patterns are due to behavioral biases and investor heuristics. For instance, Barberis et al. (1998) argue that representativeness and conservatism may lead investors to underreact to information low in weight and overreact to strong and salient information. Since we mainly observe a pattern consistent with short-term investor overreaction following M&A announcements in the LSE, an obvious next step in the analysis is to investigate whether this pattern is consistent with the argument of Barberis et al. Thus, we next concentrate on the cases where there is evidence of non-efficient behavior and re-estimate ACARs

¹⁷ There is also some evidence of momentum for negative and precise merger signals for small companies, however, we ignore this finding since the sample of announcements are too few (8).

excluding announcements that contain strong and salient information. In order to proxy for information signals that are strong and salient we use the magnitude of the reaction to the press release, which is captured by the change in the consensus expectations of the market; in other words, the price change on the announcement day. More specifically, we define as a High Magnitude announcement every positive (negative) announcement that generates an event-day abnormal return equal or above (below) to the mean event-day abnormal return plus (minus) one standard deviation.

[INSERT TABLE 6 ABOUT HERE]

Table 6 presents the re-estimated results for the six cases where return reversals and momentum is evidenced in Tables 3, 4, and 5, i.e. the results without the High Magnitude announcements. For all the cases where a return reversal is documented in the previous sub-section the subsequent *ACARs* are now statistically insignificant at the 5% level, with two exceptions where daily *ACARs* are only marginally significant: the 4-day *ACAR* for small acquirers with a negative reaction (*t*-statistic: 2.49) and the 3-day *ACAR* for small targets (*t*-statistic: 1.98). This strongly indicates that the documented return reversals are due to “important” information signals, i.e. signals that contain strong and salient information. Note also that these announcements are relatively few compared to the available sample in each group: for the large acquirer group with imprecise and negative signals the population from 160 observations in Table 3 is now 139 (i.e. 21 High magnitude announcements, or about 13%); for the large targets with precise and negative signals the population from 277 in Table 4 is now 247 (i.e. 30 High Magnitude announcements or about 10.8%); etc. Also, these few High Magnitude announcements seem to contribute a lot to the event day abnormal return. For example for the large acquirers the announcement reaction from -1.34% in Table 3 becomes 0.97%, for the small acquirers from 2.02% in Table 3

becomes 1.43%, for the small targets with imprecise signals from 5.58% in Table 4 becomes 2.37%, for small firm mergers from 9.14% in Table 5 becomes 3.57%. The implication is straightforward: the reversals documented earlier may be due to investor overreaction to very few announcements with strong information content. The only case where the pricing inefficiency does not disappear when the High Magnitude announcements are eliminated from the sample is the momentum documented for small acquirers with precise and negative signals; *ACARs* here remain statistically significant at the 5% level.

5. Conclusion

The M&A empirical literature mainly concentrates on wealth effects for shareholders and typically employs an n -day window around an M&A announcement in order to capture the initial appearance of the event in the press. By contrast, this paper identifies day-zero, i.e. the day of the initial press release about an M&A transaction and investigates investor reaction to this type of information signals, for firms listed in the London Stock Exchange during the 1997-2006 period. Previous research indicates that investors may either overreact to news and subsequently reverse their actions or react slowly and with a drift. We sort announcements by whether the firm is a bidder or a target, by whether it refers to an acquisition or a merger, by investor sophistication, by the level of information disclosure, by whether the announcements generate a positive or negative reaction, and by whether the initial reaction is strong or of a lower magnitude. The results indicate that generally investors react efficiently to information; however, for various cases we also find evidence of return reversals. Further analysis suggests that the documented reversals are due to very few announcements (about 10% of the sample) that generate a high magnitude reaction on the event day. The only pattern that we are unable to explain

is a return momentum for announcements about smaller acquirers that disclose financial information and generate a positive reaction on the event day. Overall, the findings indicate an efficient market regarding investor reaction to M&A announcements, irrespective of the precision of the information contained in the information signal and investor sophistication. The exceptions are the few announcements that alter consensus expectations significantly, and positive and precise announcements about smaller bidders.

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Table 1
M&A Announcements in the London Stock Exchange

Panel A: Sample announcements that Disclose / Do Not Disclose financial information				
		Disclose	Do Not Disclose	Total
FT100 firms	Acquirer	955	319	1274
FT100 firms	Merger	58	19	77
FT100 firms	Target	613	195	808
FT250 firms	Acquirer	940	162	1102
FT250 firms	Merger	29	12	41
FT250 firms	Target	486	76	562
			Total	3864
Panel B: Sample announcements that disclose financial information sorted by method of payment				
		Cash	Other	Total
FT100 firms	Acquirer	919	36	955
FT100 firms	Target	609	4	613
FT250 firms	Acquirer	905	35	940
FT250 firms	Target	483	3	486
			Total	2994
Panel C: Yearly announcements as a percentage of total sample announcements				
	Year	Announcements as a % of total	Year	Announcements as a % of total
	1997*	4%	2002	8%
	1998	10%	2003	12%
	1999	6%	2004	14%
	2000	12%	2005	16%
	2001	7%	2006*	11%

Notes to Table 1:

The sample consists of M&A announcements for the FTSE 350 companies listed on the London Stock Exchange (LSE) in the AFX News database during the period between June 1997 and June 2006. AFX News Ltd provides real time and independent international economic news coverage all over the world and the products are available over all common open news platforms. The initial search resulted in 24118 M&A announcements. We exclude (a) multiple announcements for the same transaction that occur on the day(s) following the initial announcement of a merger or acquisition; (b) regulatory announcements inviting comments/referring (or not referring)/clearing an already announced M&A; (c) newspaper announcements that are not confirmed by a subsequent announcement in the day(s) following the announcement, or are disconfirmed by the companies supposedly involved in the announced M&A; (d) announcements that relate to companies purchasing their own shares for cancellation, or directors transactions; (e) M&A announcements that occur on the same day with earnings/dividend announcements and/or annual general meetings. When a newspaper report cites a specific source and is confirmed by the companies involved within the following day(s) we treat the newspaper announcement as the initial announcement of the M&A. If it appeared on a Sunday paper we use the following Monday as the event day (day zero). Announcements are classified as Buy or Sell depending on whether the firm buys (acquirer) another firm/business/asset, or interest/shares in a firm locally or abroad, etc, or sells (becomes a target) a subsidiary, part of its business locally or abroad, shares/interest in a firm/asset, etc. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information) and imprecise information signals (those that do not disclose financial information).* 1997: June to December; 2006: January to June.

Table 2
Market Reaction to Acquisition Announcements for LSE listed firms

Panel A: FTSE-100 Companies		
Days	Acquirers	Targets
ACAR(-2)	0.0015 (2.07)*	0.0004 (0.41)
AR(-1)	0.0000 (-0.04)	0.0004 (0.64)
AR (0)	0.0005 (0.75)	0.0037 (4.40)*
AR (1)	0.0007 (1.25)	0.0010 (1.40)
ACAR (2)	0.0017 (2.11)*	0.0011 (1.16)
ACAR (3)	0.0017 (1.79)**	0.0019 (1.74)**
ACAR (4)	0.0023 (1.99)*	0.0023 (1.74)**
ACAR (5)	0.0024 (1.91)**	0.0019 (1.30)
ACAR (10)	0.0029 (2.13)*	0.0023 (1.40)
ACAR (15)	0.0038 (2.67)*	0.0030 (1.72)**
Panel B: FTSE-250 Companies		
Days	Acquirers	Targets
ACAR(-2)	0.0009 (0.95)	0.0046 (3.14)*
AR(-1)	0.0006 (0.97)	0.0029 (2.72)*
AR (0)	0.0033 (3.48)*	0.0144 (7.14)*
AR (1)	0.0019 (2.62) *	-0.0010 (-0.88)
ACAR (2)	0.0035 (3.58) *	-0.0006 (-0.37)
ACAR (3)	0.0050 (4.33) *	-0.0015 (-0.84)
ACAR (4)	0.0060 (4.43) *	-0.0015 (-0.76)
ACAR (5)	0.0063 (4.16) *	-0.0007 (-0.34)
ACAR (10)	0.0072 (4.55) *	0.0002 (0.09)
ACAR (15)	0.0064 (3.79) *	0.0021 (0.84)

Notes to Table 2:

Stock returns are defined as the first differences of log price levels and the abnormal return of stock i on day t (AR_{it}) is defined as the difference between the return of stock i on day t (R_{it}) and the market return (R_{Mt}) as follows: $AR_{it} = R_{it} - R_{Mt}$. The Cumulative Abnormal Returns (CAR) for the following fifteen days ($t=1, 2, 3, \dots, 15$) for

each announcement and each stock is computed as: $CAR_{it} = \sum_{t=1}^{15} AR_{it}$. Average Cumulative Abnormal Returns (ACAR)

for each type of announcement as are computed as: $ACAR_{it} = \frac{1}{N} \sum_{n=1}^N CAR_{it}$. The statistical significance of the ACARs is

evaluated with the t -statistic $t = \frac{ACAR}{\sigma / \sqrt{N}}$, where σ is the standard deviation of the CARs and N is population. If investors

react efficiently to the information contained in M&A announcements then stock prices should adjust to the new levels immediately and no return reversal or continuation should be observed on the day (days) following the announcement (i.e. ACARs should be statistically insignificant). If investors overreact to M&A announcements a positive (negative) event day reaction should be followed by a decline (increase) in prices the following day (days); that is, the subsequent ACARs should be statistically significant and of the opposite sign (return reversal). If investors underreact to M&A announcements a positive (negative) event day reaction should be followed by a increase (decline) in prices the following day (days); that is, the subsequent ACARs should be statistically significant and of the same sign (return continuation). * indicates statistical significance at the 5% level; ** indicates statistical significance at the 10% level. For % returns multiply with 100.

Table 3
Positive and Negative Market Reaction to Acquirer Announcements

Days	Disclose/Positive (N = 465/505) ^a		Disclose/Negative (N =490/435)		Do Not Disclose/Positive (N =159/84)		Do Not Disclose/Negative (N =160/78)	
	Return	t-statistic	Return	t-statistic	Return	t-statistic	Return	t-statistic
PANEL A: FTSE 100 Companies								
ACAR(-2)	0.0011	0.89	0.0010	0.90	0.0043	1.95	0.0016	0.69
AR(-1)	0.0004	0.43	-0.0004	-0.53	0.0010	0.60	-0.0009	-0.56
AR (0)	0.0154	19.21*	-0.0142	-20.56*	0.0158	9.86*	-0.0134	-13.84*
AR (1)	0.0020	1.81**	-0.0003	-0.42	0.0014	0.77	-0.0003	-0.19
ACAR (2)	0.0024	1.80**	-0.0006	-0.50	0.0036	1.32	0.0044	2.10*
ACAR (3)	0.0019	1.17	0.0002	0.14	0.0021	0.71	0.0053	2.05*
ACAR (4)	0.0032	1.47	0.0003	0.19	-0.0003	-0.08	0.0086	2.64*
ACAR (5)	0.0029	1.23	0.0017	0.97	-0.0022	-0.65	0.0073	2.37*
ACAR (10)	0.0036	1.38	0.0021	1.06	-0.0022	-0.55	0.0086	2.45*
ACAR (15)	0.0043	1.63	0.0039	1.90**	-0.0025	-0.60	0.0084	2.24*
PANEL B: FTSE 250 Companies								
ACAR(-2)	0.0012	0.91	0.0006	0.39	-0.0016	-0.49	0.0022	0.64
AR(-1)	0.0009	1.07	0.0002	0.17	0.0018	0.99	-0.0008	-0.32
AR (0)	0.0209	16.53*	-0.0165	-15.76*	0.0182	8.73*	-0.0202	-7.89*
AR (1)	0.0026	2.49*	0.0016	1.39	0.0031	1.10	-0.0032	-1.11
ACAR (2)	0.0052	3.53*	0.0022	1.39	0.0047	1.34	-0.0027	-0.89
ACAR (3)	0.0060	3.40*	0.0044	2.51*	0.0057	1.21	-0.0001	-0.03
ACAR (4)	0.0071	3.35*	0.0061	3.09*	0.0025	0.47	0.0008	0.15
ACAR (5)	0.0089	3.96*	0.0052	2.44*	0.0030	0.47	-0.0036	-0.51
ACAR (10)	0.0100	4.25*	0.0060	2.61*	0.0019	0.29	0.0002	0.02
ACAR (15)	0.0102	4.08*	0.0047	1.94**	0.0032	0.49	-0.0072	-0.83

Notes to Table 3:

^a The numbers in parenthesis indicate the available announcements for each group: the first number relates to the FTSE100 sample and the second announcement to the FTSE250 sample. For example (465/513) indicate that there are 465 announcements for FTSE100 companies and 513 announcements for FTSE250 companies. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information = “Disclose”) and imprecise information signals (those that do not disclose financial information = “Do Not Disclose”). The terms “Positive” and “Negative” refer to whether the announcement generate a positive or negative reaction on announcement day, respectively. For % returns multiply with 100.

* indicates statistical significance at the 5% level; ** indicates statistical significance at the 10% level. See also Notes to Table 2.

Table 4
Positive and Negative Market Reaction to Target Announcements

Days	Disclose/Positive (N =336/287) ^a		Disclose/Negative (N =277/199)		Do Not Disclose/Positive (N =100/51)		Do Not Disclose/Negative (N =95/25)	
	Return	t-statistic	Return	t-statistic	Return	t-statistic	Return	t-statistic
PANEL A: FTSE 100 Companies								
ACAR(-2)	0.0002	0.12	0.0011	0.76	-0.0017	-0.75	0.0014	0.60
AR(-1)	-0.0001	-0.13	0.0013	1.23	-0.0022	-1.42	0.0026	1.55
AR (0)	0.0181	14.57*	-0.0121	-15.48*	0.0148	8.98*	-0.0136	-8.08*
AR (1)	0.0024	1.89**	0.0004	0.39	0.0020	1.30	-0.0034	-1.91**
ACAR (2)	0.0018	1.19	0.0017	1.11	-0.0004	-0.15	-0.0020	-0.80
ACAR (3)	0.0014	0.79	0.0040	2.22*	-0.0005	-0.16	-0.0001	-0.05
ACAR (4)	0.0018	0.81	0.0043	2.01*	0.0024	0.61	-0.0017	-0.48
ACAR (5)	0.0014	0.62	0.0050	2.03*	0.0003	0.06	-0.0035	-0.88
ACAR (10)	0.0027	1.03	0.0043	1.56	0.0005	0.10	-0.0030	-0.69
ACAR (15)	0.0031	1.13	0.0060	2.07*	0.0008	0.16	-0.0039	-0.79
PANEL B: FTSE 250 Companies								
ACAR(-2)	0.0051	2.50*	0.0017	0.74	0.0107	1.82**	0.0097	1.19
AR(-1)	0.0030	1.87**	0.0023	1.63	0.0047	1.25	0.0011	0.24
AR (0)	0.0306	12.31*	-0.0163	-10.47*	0.0558	5.20*	-0.0145	-6.28*
AR (1)	0.0004	0.30	-0.0013	-0.62	-0.0086	-2.56*	0.0021	0.40
ACAR (2)	0.0010	0.47	0.0002	0.07	-0.0126	-2.54*	0.0000	0.01
ACAR (3)	0.0006	0.24	-0.0015	-0.48	-0.0139	-2.64*	0.0012	0.21
ACAR (4)	0.0011	0.41	-0.0027	-0.75	-0.0107	-2.10*	-0.0018	-0.28
ACAR (5)	0.0020	0.65	-0.0019	-0.50	-0.0082	-1.48	-0.0062	-0.89
ACAR (10)	0.0017	0.51	0.0011	0.27	-0.0087	-1.50	-0.0058	-0.79
ACAR (15)	0.0039	1.10	0.0024	0.57	-0.0081	-1.17	-0.0002	-0.03

Notes to Table 4:

^a The numbers in parenthesis indicate the available announcements for each group: the first number relates to the FTSE100 sample and the second announcement to the FTSE250 sample. For example, (465/513) indicate that there are 465 announcements for FTSE100 companies and 513 announcements for FTSE250 companies. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information = “Disclose”) and imprecise information signals (those that do not disclose financial information = “Do Not Disclose”). The terms “Positive” and “Negative” refer to whether the announcement generate a positive or negative reaction on announcement day, respectively. For % returns multiply with 100.

* indicates statistical significance at the 5% level; ** indicates statistical significance at the 10% level. See also Notes to Table 2.

Table 5
Positive and Negative Market Reaction to Merger Announcements

Days	Disclose/Positive (19/21) ^a		Disclose/Negative (39/8)		Do Not Disclose/Positive (11/8)		Do Not Disclose/Negative (8/4)	
	Return	t-statistic	Return	t-statistic	Return	t-statistic	Return	t-statistic
PANEL A: FTSE 100 Companies								
ACAR(-2)	0.0081	0.96	-0.0012	-0.19	0.0025	0.56	0.0166	1.83
AR(-1)	0.0040	0.75	0.0018	0.49	0.0104	0.98	0.0035	0.67
AR (0)	0.0498	5.11*	-0.0338	-5.08*	0.0298	1.89**	-0.0087	-2.56*
AR (1)	0.0066	1.13	-0.0036	-0.87	-0.0058	-0.63	0.0029	0.39
ACAR (2)	0.0003	0.03	-0.0038	-0.67	-0.0066	-0.70	-0.0099	-1.78**
ACAR (3)	-0.0104	-1.10	0.0000	0.00	-0.0090	-1.03	-0.0076	-1.62
ACAR (4)	-0.0087	-1.00	0.0049	0.71	-0.0063	-0.95	-0.0001	-0.01
ACAR (5)	-0.0032	-0.34	0.0084	1.20	-0.0128	-1.53	-0.0051	-0.30
ACAR (10)	0.0009	0.08	0.0089	1.32	-0.0112	-1.27	-0.0006	-0.03
ACAR (15)	-0.0034	-0.29	0.0054	0.87	-0.0109	-1.27	0.0048	0.24
PANEL B: FTSE 250 Companies								
ACAR(-2)	-0.0045	-0.86	-0.0033	-0.21	-0.0165	-1.04	0.0133	0.74
AR(-1)	0.0029	0.99	0.0048	0.31	-0.0190	-1.11	-0.0044	-0.41
AR (0)	0.0914	2.13*	-0.0341	-3.43*	0.0375	2.04*	-0.0206	-1.16
AR (1)	0.0006	0.15	-0.0004	-0.14	0.0022	0.30	0.0039	0.44
ACAR (2)	-0.0050	-0.71	-0.0122	-1.63	0.0054	0.42	0.0325	1.96*
ACAR (3)	-0.0102	-1.12	-0.0060	-0.68	0.0081	0.47	0.0412	1.09
ACAR (4)	-0.0140	-1.46	-0.0318	-2.32*	-0.0021	-0.10	0.0146	0.40
ACAR (5)	-0.0210	-2.36*	-0.0520	-2.39*	0.0003	0.02	0.0267	0.89
ACAR (10)	-0.0204	-2.44*	-0.0554	-2.05*	0.0046	0.20	0.0124	0.27
ACAR (15)	-0.0235	-2.64*	-0.0498	-1.55	-0.0150	-0.90	0.0186	0.39

Notes to Table 5:

^a The numbers in parenthesis indicate the available announcements for each group: the first number relates to the FTSE100 sample and the second announcement to the FTSE250 sample. For example, (465/513) indicate that there are 465 announcements for FTSE100 companies and 513 announcements for FTSE250 companies. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information = “Disclose”) and imprecise information signals (those that do not disclose financial information = “Do Not Disclose”). The terms “Positive” and “Negative” refer to whether the announcement generate a positive or negative reaction on announcement day, respectively. For % returns multiply with 100.

* indicates statistical significance at the 5% level; ** indicates statistical significance at the 10% level. See also Notes to Table 2.

Table 6
Predictable Post-announcement Patterns excluding High Magnitude Signals

	FTSE100 / Buy / Non-Disclose / Negative (N = 139) ^a		FTSE250 / Buy / Disclose / Positive (N = 463)		FTSE250 / Buy / Disclose / Negative (N = 393)	
Days	Return	t-statistic	Return	t-statistic	Return	t-statistic
ACAR(-2)	0.0013	0.59	0.0013	1.04	0.0015	0.88
AR(-1)	-0.0004	-0.24	0.0009	1.03	0.0013	1.14
AR (0)	-0.0097	-17.38*	0.0143	25.04*	-0.0111	-25.61*
AR (1)	-0.0021	-1.38	0.0024	2.23*	0.0016	1.37
ACAR (2)	0.0018	0.84	0.0051	3.46*	0.0018	1.11
ACAR (3)	0.0020	0.77	0.0059	3.37*	0.0032	1.81**
ACAR (4)	0.0037	1.15	0.0070	3.24*	0.0048	2.49*
ACAR (5)	0.0029	1.00	0.0090	3.86*	0.0038	1.79**
ACAR (10)	0.0031	0.95	0.0100	4.10*	0.0044	1.96**
ACAR (15)	0.0042	1.13	0.0108	4.17*	0.0030	1.20
	FTSE100 / Sell / Disclose / Negative (N = 247)		FTSE250 / Sell / Do Not Disclose / Positive (N = 43)		FTSE250 / Merger / Disclose / Negative (N = 18)	
Days	Return	t-statistic	Return	t-statistic	Return	t-statistic
ACAR(-2)	0.0011	0.71	0.0085	1.22	-0.0014	-0.26
AR(-1)	0.0014	1.26	0.0036	0.86	0.0024	0.79
AR (0)	-0.0087	-20.22*	0.0237	6.11*	0.0375	5.25*
AR (1)	0.0013	1.13	-0.0071	-1.92**	0.0040	1.06
ACAR (2)	0.0020	1.23	-0.0094	-1.78**	0.0039	0.70
ACAR (3)	0.0039	1.94**	-0.0111	-1.98*	0.0012	0.17
ACAR (4)	0.0042	1.78**	-0.0098	-1.82**	-0.0024	-0.29
ACAR (5)	0.0040	1.52	-0.0064	-1.11	-0.0123	-1.41
ACAR (10)	0.0041	1.36	-0.0059	-0.96	-0.0123	-1.49
ACAR (15)	0.0050	1.57	-0.0052	-0.68	-0.0152	-1.72**

Notes to Table 6:

A High Magnitude announcement is defined as follows: every positive (negative) announcement that generates an event-day abnormal return equal or above (below) to the mean event-day abnormal return plus (minus) one standard deviation. Table 6 presents the re-estimated results for the six cases where return reversals and momentum is evidenced in Tables 3, 4, and 5, i.e. the results without the High Magnitude observations. Many news items and/or official statements do not disclose financial information such as the price paid or received and other financial details of the deal. After reading carefully all sample items we are able to classify M&A announcements as precise information signals (those that disclose financial information = “Disclose”) and imprecise information signals (those that do not disclose financial information = “Do Not Disclose”). The terms “Positive” and “Negative” refer to whether the announcement generate a positive or negative reaction on announcement day, respectively.

^a The numbers in parenthesis indicate the available announcements for each group: For example, for the FTSE100 / Buy / Do Not Disclose / Negative group there are 139 announcements available after the High Magnitude announcements are excluded. For % returns multiply with 100.

* indicates statistical significance at the 5% level; ** indicates statistical significance at the 10% level. See also Notes to Table 2.