IS INSIDER TRADING REGULATION EFFECTIVE? EVIDENCE FROM UK TAKEOVER ACTIVITY

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Abstract

Analysed in this study are the returns on stock prices of target companies surrounding the first publicised dates of completed takeovers in the UK between 2001 and 2010. Two samples are created of 209 and 197 firms for announcement and rumoured dates respectively. Both demonstrate statistically significant cumulative abnormal returns (CARs) prior to the release of information about the impending bid. This paper investigates whether observable factors create this price run-up or if it is the result of disclosed insider trading. Cross sectional analysis of CARs do not corroborate the claim that reported informed trades are the cause of this effect, this may indicate that trading on material non public information goes undisclosed.

JEL Classifications: G18, G28, G14

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1 Introduction

Since assuming the guardianship of market integrity surprisingly little research has been carried out to gauge the success of the UK's Financial Services Authority (FSA) in meeting its enforcement responsibilities. The role of protecting the markets from abuse of various kinds was assumed by the FSA following the introduction of the Financial Services and Markets Act 2000.

Empirical studies that examine instances of abuse focus upon known cases of insider trading (Meulbrook 1992, Jarrell and Poulsen 1989). Research in this area often investigates corporate restructuring events such as mergers, acquisitions and tender offers and can be encompassed in the catch-all term takeover. Announcements relating to these have been shown in the literature to have a price altering effect (Seyhun 1992). Takeovers are distinctive in that a reaction is discernible in the value of the target company's stock prior to knowledge of the event becoming publicly available. A broad body of empirical literature has been published both in Europe and the US which supports this position (Keown and Pinkerton 1981, Jenson and Ruback 1980, Seyhun 2000, Bris 2005, among others).

Presumed in much previous work is that the pre-event price run up occurs as a result of informed trading (Seyhun 1992, Meulbrook and Hart 1997, Meulbrook 1992, Korczak et al 2010). If such run ups are observed, this could draw into question the effectiveness of legislation and the FSA's capacity to act as an enforcer. This 'informed trading hypothesis' is not in receipt of universal support as several studies point to the influence of publicly discernible signals on abnormal pricing behaviour prior to an announcement of corporate restructuring events (Jarrell and Poulsen 1989, Neely 1987). Much empirical literature documents evidence suggesting that certain observable changes in company characteristics can demonstrate the increased probability that this firm could become a likely target for a takeover (Hasbrouck 1985, Schleifer and Vishny 2003, Rossi and Volpin 2004, Powell and Yawson 2005, Palepu 1986, Brar et al 2004). Factors such as size and profitability (Sony and Walkling 1993, Palepu 1986, Cudd and Duggal 2000), evidence of inefficient management and market sentiment (Powell 2004, Barnes 1999, 2000, Kennedy and Limmack 1996), industry disturbance (Gort 1969, Palepu 1986) can signal to market participants that a takeover is likely to occur. The pre-event price run-up therefore might not be attributable solely to informed trading but rather to a combination of influences. This idea has empirical precedence and supports the argument that pre-event activity preceding instances of corporate restructuring is conducted by investors who hold public rather than private information. This paper's main contribution is to attempt to resolve this debate in the UK within the post Financial Markets and Services Act (FMSA) 2000 context.

The period under examination marks the first decade of the FSA's assumption of the role of 'policeman of the markets'. The FSA has made the

admission that a scarcity of resources prohibits it from following up on every suspicious transaction (Barnes 2009). Therefore this paper sets out to gauge the level of its success and calls into question the efficacy of using traditional indicators such as pre-event price run-up when such confounding effects are shown to be present. The possibility that the price run up is a consequence of informed but legitimate trading is also investigated using disclosed trades made by company directors.

Guiding the study are the following research questions.

- What is the full extent of abnormal returns evident in target companies prior to the announcement of a takeover?
- Can any of the established probability factors be used to explain away unusual activity prior to a takeover announcement; and can a new factor such as declared insider trades be added to this list of explanatory factors within the post FMSA 2000 UK context?

To investigate these questions I use event study analysis to observe abnormal returns prior to the announcement dates. This study also examines separately the dates in which the takeover first came 'into play', that is, the day in which the rumour first appeared in the media. Cross-sectional OLS regression analysis is used to determine whether we can make presumptions about the extent of illegal insider trading inherent in the UK corporate restructuring market.

The remainder of this paper is structured as follows; first, the literature on insider activity pertaining to Mergers and Acquisitions is reviewed. Then, a full description of the legal context is provided with particular reference to the FSA's role in policing the markets and enforcing legislation. Next, the description of the sample, methods and procedures used are provided in addition to the results pertaining to the extent of pre-event abnormal pricing. An introduction to the factors which could offer an alternative explanation is then offered. Following that is an empirical investigation that isolates factors which could contribute to explaining some of the pre-event pricing activity. The article concludes with a discussion of the implications of the findings, limitations of the research and directions for future work in this area.

2 Literature Review

There is considerable evidence to suggest that a price run-up can be expected within target companies prior to the announcement of a merger, acquisition or tender offer. Studies suggest that positive gains are realisable in stock prices a number of weeks before the formal announcement date (Jenson and Ruback 1983, Bradley, Keown and Pinkerton 1981, Jarell, Brickley and Netter 1988). Of these some claim that as much as half the total premium is attained by the close of the trading day immediately prior to the date on which the takeover is announced.

A consensus exists in the literature that the abnormal returns signified through a price run-up features as a universal characteristic in the target company's share price prior to a public announcement. Despite the agreement that abnormal returns exist, competing reasons are offered to explain why this may be the case. The dividing line rests between those who are inclined to argue that such anticipation is consistent with ideas on semi strong market efficiency and those who believe that it is a consequence of the leakage of privately held price sensitive information. In the former group it is thought that investors pick up on publicly discernible signals that suggest that a merger is imminent, adherents of the latter opinion hold the rather more intuitive belief that the change emanates from trading actions executed by those who know details of the forthcoming deal.

2.1 Explaining the Run-up

Several attempts have been made to attribute this abnormal pricing behaviour to trading upon privately held information. Meulbroek and Hart (1997) examine the abnormal returns gained through 112 instances of known illegal insider trading in takeover episodes in the US between 1974 and 1989. A control sample of mergers where no insider trading was known to have occurred is constructed in an attempt to isolate the effect on the run-up that could be attributable specifically to this activity. Their results are consistent with the idea that insider trading contributes to the magnitude of the run-up experienced before a merger is announced. Earlier work by Asquith (1983), examined both the announcement and outcome of events on 211 target firms and demonstrated evidence for a positive cumulative average abnormal return (CAAR) within the target firm of 15% in the 60 days before the announcement. Meulbroek (1992) also contributes to this argument through linking positive gains in the target run-up prior to merger announcement to days where illegal insider trading was known to have occurred. These findings grow more intriguing when robustness checks control for the presence of media rumours and suitable adjustments are made for the normal premium expectancy.

A similar performance in CAAR was realised in the work carried out by Keown and Pinkerton (1981). However in this study the authors attribute the cause as media leakage of the event. Further weight is added to the argument by Neely (1987) that the run-up is the product of astute investor practice. In this study of acquired and acquiring US Banks it was found that abnormal returns in the target companies reached 9% in the two weeks prior to the announcement, in total, over a period of seven weeks before the event a CAAR of 15.1% is obtained. He

attributes the price behaviour to buying pressure created by acquirers before an announcement is made. There is an acknowledgement by the author that both these possibilities are heightened when the target firms in the sample are large. In smaller companies that come under less scrutiny the likelihood of these being significant factors dramatically reduces.

Within the UK, Korczak et al (2010) provide evidence to demonstrate that insiders do indeed display a propensity to trade ahead of company news announcements. Furthermore it is shown that the capacity for investors to buy ahead of good news announcements outweighs their inclination to sell prior to the release of negative information. However, the level of insider activity before trading ahead of bad news is governed by the supposed significance of the event. In conditions where the effect of the news is thought to dramatically affect stock prices the probability of insider selling is shown to decrease. The conclusions reached are that behaviour is toned down when an incident is likely to attract more attention from regulators and market commentators.

The dispute relating to what causes a price run up could be resolved in part through examining the phenomenon while controlling for a number of factors that signal the likelihood that a company could become a target. These could include factors such as size, undervaluation or inefficient management of the company in question. Work in the US stock market was conducted by Jarrell and Poulsen (1989) who examine 172 tender offers between 1981 and 1985 proposing that a statistically significant CAAR of 11% can be detected as early as fifteen days before the announcement. This accounts for 40% of the entire premium attained owing to the takeover. They attribute this to media speculation concerning the probability of an impending takeover, although they do not rule out the possibility that insider trading activity does not fuel the press speculation. The argument is also put forward that the known attempts by the acquirer to gain a foothold in the target company, through purchasing shares bears some relation to the evidence of anticipation. However, with known cases of insider trading which are examined in conjunction with the abnormal returns a relationship does not appear to be evident. These conclusions do not however discount the possible influence of unknown instances of insider trading on the recorded run up.

During instances where news of the merger has been leaked or has established itself as a rumour there is no longer a solid case to suggest that the pre-announcement trading activity is instigated solely as a consequence of privately held information. Evidence of activity prior to the rumour date is highly suggestive of insider trading activity. In the empirical literature a number of studies have documented the presence of abnormal returns prior to the rumour date. Jarrell and Poulsen (1989) ascribe cumulative abnormal returns in such instances to reach 11.2% by close of the last trading day prior to the rumour. The general conclusion is that as the rumour date often precedes the announcement date by as many as two months, trading by directors can occur outside of a time when their activities are more likely to be scrutinised.

2.2 What is the effect of regulation and enforcement?

If we are to accept the insider trading hypothesis, empirical studies suggest that this can have an immediate effect on price and that this can occur as early as fifty days before the first public disclosure of the takeover (Meulbroek 1992). The effect further intensifies in the twenty trading days prior to this event (Meulbroek and Hart 1997). The question then arises as to whether regulation is a sufficient deterrent against market abuse of this nature. Although evidence is mixed some work suggests that informed trading is curbed when insider trading regulations are introduced (Korczak et al 2010). Durnev and Nain (2005) for example, examine 2,827 firms from 21 countries in a sample of takeovers taken between 1996 and 1999. They find that on the whole, restrictions on insider activity do curb levels of informed trading but that in companies where the share ownership is concentrated among large shareholders these restrictions become less effective. Certainly the positive attitude among regulators toward imposing restrictions in this area is gathering into something of a global trend. Bhattacharya and Daouk (2002) surveyed 103 countries which have stock markets; they find that 87 of these prohibit the activity. The principle motivation behind the ban is to protect the interests of uninformed investors against more informed opposite parties. Despite this, when empirical tests are conducted to ascertain the effect of regulation, it does not follow that an increase in regulation or sanctioning will dampen either the instance or volume of insider trading. Seyhun (1992) conducts an investigation of open market sales and purchases in 8,856 US firms between 1975 and 1991; he finds that despite the overhaul in regulation and sanctioning in the 1980's profits earned by insiders increased from 3.5% in the pre-1980 period to 7% in the years following 1984. Further to this, the volume of known insider trades also increased fourfold. One caveat here is that the sample involved uses declared insider trades and that the increased sanctioning could have forced these trades out into the open.

In a study of European takeovers Bris (2005) shows that a period of intense takeover activity is generally preceded by an episode of concentrated insider trading activity. The consensus among regulators is that it appears to be a form of 'cheating' that is 'legally forbidden, morally wrong and economically dangerous' (Zevitt 1998). Bris (2005) examines 4541 acquisitions spanning 52 countries

and demonstrates that there is a direct correlation between the severity of punishment, the diligence of regulators and the incidence and profitability of insider trading. It appears that more stringent enforcement dramatically discourages this activity. The findings have theoretical precedence the rational economic perspective as espoused by (Becker 1993), which as the cost of violating the market abuse laws increase self-interest dissipates as the marginal benefits from participating in the activity decreases. Hence we see a fall in the levels of insider trading. However a word of caution must be introduced at this juncture, if a market abuse is legislated for in a certain market yet it does not become enforced, then the effect on the cost of equity can be more severe than if there had been no law in place. Bhattacharya and Daouk (2009) find this to be the case in emerging markets where these conditions exist. Explanation is offered using the prisoners dilemma analogy, in situations where a good but unenforced law exists some individuals will obey the law while others will choose not to comply, therefore creating disequilibrium in behaviour. The cost to the law abiders will thus be greater than in the event that a law exists and is enforced or when no law exists at all, in such circumstances behaviour would follow equilibrium. Where enforcement is improved then there is some empirical evidence to suggest that the proposed aim of regulation can be met. Following other work which investigates insider trading behaviour around price sensitive disclosure events (Bettis, Cole and Lemmon 2000, Roulstone 2003 and Garfinkel 1997) Jagonlinzer and Roulstone (2009) concur that insiders shift their trades until periods after event related earnings announcements; they go further in suggesting that this results in a fall in abnormal returns which are gained through insider trading activity. This is in contrast to the findings of Seyhun (1992) who, while discovering displacement behaviour, does not uncover a marked difference in the gains made by insiders once the trading pattern has shifted. This evidence is produced using US data following the imposition of the Insider Trading and Securities Fraud Enforcement Act (ITSFEA) 1988. The primary tenets of this act brought an increase in the sanctions available to authorities in addition to a broadening of the terms of culpability to incorporate the firms to which insiders belong, thus incentivising firms to police the activities of their employees to a greater degree. These findings add further weight to the argument that it is the threat of enforcement and sanction which become the main drivers which mutate trading patterns among insiders.

Gilbert et al (2007) supports the idea that an introduction or improvement of the regulatory framework specifically relating to enforcement can have a positive effect on markets. In their investigation of the New Zealand stock market performance following the amendment of existing insider trading regulation they find an amendment to legislation creates a reduction in terms of the cost of capital and volatility in addition an increase in the liquidity of traded assets. The authors argue that these changes are the result of increased investor confidence stemming from a belief that the new measure could facilitate greater success in prosecution than which had previously achieved. Implicitly suggested here is that it is when enforcement or a promise of successful prosecutions manifests, it is then that we see the benefits arising from a regulatory regime.

2.3 UK regulation and enforcement

The introduction of the Financial Services and Markets Act (FMSA 2000) harnessed the FSA with greater powers of investigation and enforcement than that which it had previously held. The increased sanctioning powers in addition to the ability to penalise failure to co-operate with investigations is perhaps one of the more important evolutionary changes in the market abuse regulation (Rider et al 2009). The Act permitted the FSA to pursue individuals and companies through both the civil and criminal courts, in order to allow the FSA to meet its statutory objectives of protecting market confidence and reducing financial crime (Section 2(1) FMSA 2000). Sections 167 and 168 of the FMSA granted the FSA powers to conduct investigations on any individual suspected being involved in market abuse. The terms of the legislation confers a wider remit beyond those who owe a fiduciary duty to shareholders of companies participating in the market. As such the net widens to include those who may benefit from the dissemination of the information. However, budgetary constraints mean that not every suspicious trade can be examined. An incident, if it is to warrant an investigation must meet a pre-designated set of criteria, which in summary, demand material evidence of a breach of legislation, proof of shareholder loss/detriment, evident risk that the incident could damage investor confidence and that it falls within the strategic priority of the FSA at the time (Rider et al 2009). Furthermore, the FSA retain the right not to take action in cases where a legal infraction has been identified. This usually extends to instances that are not deemed to be particularly serious or to trades where the individual or firm involved has self reported. Once necessary remedial action is undertaken, the FSA may prioritise the objective of maintaining a co-operative and open relationship with firms, especially those that demonstrate the initiative to assume responsibility for its own regulatory infringements. In such cases, the FSA will refrain from taking further action (Rider et al 2009). This implies that simply conferring the powers of enforcement are not enough to guarantee that every case of market abuse is dealt with. The purpose of this paper is in part to air the question as to whether there is a significant failure to enforce

legislation in that most typical of insider opportunities namely, trading before takeovers.

In a speech delivered at the FSA's Law enforcement conference in 1998, the FSA's director of enforcement, Margaret Cole, confirmed the intention of the FSA to be 'bolder and more resolute' in pursuing market abuse cases, so as to introduce 'a change in the culture in the city' (Cole 1998). The focus of this change was to pursue offenders through the criminal courts where a prosecution if successful could result in a prison sentence. The rationale behind this is that stigmatising offenders with criminality would have a greater dissuasive effect than simple imposition of civil sanctions (Symington 2008). The penalties which the FSA has the power to impose are wide ranging. It could publish a statement detailing how a person has participated in market abuse rather than impose a tangible penalty. Where remedial action has been undertaken by the transgressor this is often the preferred avenue of pursuit.

It can also assist both parties involved to reach an agreed settlement, where it may consider the individual circumstances of the case and issue an appropriate penalty. In particularly serious cases it may take action to remove the companies' business permits or in the case of individuals their 'approved persons status', (FSA enforcement guide chapters 8 and 9). The authority may also take out a court injunction against individuals or companies to compel these to take a proscribed course of action or prohibit them from further engagement in market abuse. This is a particularly powerful sanction as refusal to comply would result in the party in question being held in contempt of court. Financial penalties when applied are determined in accordance with the figure the offending party is thought to have gained as a result of the transaction. Under sections 201 and 402 of FMSA 2000, the FSA has the power to prosecute the offence of misleading statements and practice. Further to this, it has also the power to prosecute insider dealing under part five of the 1993 Criminal Justice Act. In determining whether or not to pursue a case through the criminal courts factors such as the seriousness of the offence and the impact this may have had on the markets. Penalties liable to a person convicted of the offence of insider dealing are either a fine or imprisonment of up to seven years (FMSA 2000, Section 397(8) and the Criminal Justice act 1993 section 61). In cases deemed to be of particular severity the FSA may refer the matter to the serious fraud office that may pursue a conviction under section 2 of the Criminal Justice Act 1987. Such referrals are made only in cases where the alleged fraud exceeds the value of £1 million or where the nature of the case requires the investigatory power of an organisation with a further reach than the FSA (Rider et al 2009).

2.4 Disclosure

Part VI of FMSA 2000 requires companies issuing shares to release information along the regulatory information service, which when publicised would lead to a considerable movement in the price of the underlying security. This is what is deemed in the legislation to constitute 'price sensitive information', (Rider et al 2009). Furthermore the information is required to be disseminated as soon as is possible after the information comes to light internally. The stipulations are that reports of director's dealings and transactions on the accounts of their spouses and children are offered in as timely a manner as possible. More explicitly, the director is obliged under the UK Model code to inform their company of such activity no later than five working days following the trade. The firm is then obliged to report this information to the LSE no later than one working day after the transaction has occurred. The company must also ensure that data vendors are informed via the regulatory news service feeds. Furthermore the firm must enter details of the trade in a publicly available register within three days of the event (Fidrmuc et al 2006). There is also a requirement put upon the company issuing the underlying shares to make available to the FSA a full list of persons who may have access to the information. Individuals closely connected to the deal such as senior management and directors are also obliged to disclose transactions of issuing company shares in their own accounts. The full rules surrounding disclosure are available in the disclosure and transparency rules (DTRs) for listed companies; which is contained in the FSA's handbook. The statutory authority for these rules is laid down in part VI of FMSA 2000.

2.5 Self Regulation

Takeover activity in particular draws substantial attention from regulators as corporate restructuring in the markets has shown to be a focus of insider activity. The aspect of the model code which is concerned with takeovers (the takeover code) is administered by the panel on takeovers and mergers. The code lays down general principles and practices which are to be followed by listed companies during times of corporate change. In general the main aim of setting these principles is to ensure that shareholders receive fair treatment, adequate information and to ensure that no abusive trading occurs ahead of a bid announcement. While the panel itself holds no regulatory or sanctioning powers its decisions can be acted upon by the FSA, therefore a breach of code could result in disciplinary measures, which at the extreme might involve a delisting of the company concerned. Part of the code (Rule 2) requires that the bidding company must declare its interest in the target company should the target's unusual price movements occur in the target's share price or

rumours surface relating to the possibility of a takeover. These incidents of course must be seen to be attributable to the acquiring company. The code (Rule 2.1) also requires any third party who may have access to such price sensitive information to keep this private.

2.6. Enforcement

In the years before the FSA received the powers to police and prosecute the variant forms of market abuse, responsibility for the task belonged to the Department of Trade and Industry (DTI). Throughout the 1980's 21 acts of insider dealing were successfully prosecuted under the Companies Act (1980/1985). Of these, six were as a result of trading by a director or an associate, or were made upon information provided by a director. The remaining offences were committed by individuals who held close links with companies through either professional involvement or links to other insiders (Barnes 2009). The prosecution success rate represents 58% of all cases pursued. Following the implementation of FMSA 2000 in January 2001, the FSA took over the role of policing market abuse from the DTI. With only two criminal convictions secured since 2001, the FSA demonstrably favours the civil route when enforcing the regulations. Since 2001, in the UK there have been 12 successful civil actions relating to market abuse, of these, eight involved insider trading. In the two cases where criminal proceedings were initiated, the five individuals involved received prison sentences of up to two years and one individual received a community service order. In the civil cases fines totalling £27,550,143 were imposed, the smallest of these was £1,000, while the largest amounted to £17,000,000 and was levied against the Royal Dutch Shell Group in 2004 for providing misleading information to investors (FSA. The largest fine imposed for insider dealing was levied against GLG partners LP and a Mr Paul Sabre who were each fined £750,000 respectively (FSA 2011). Despite these successes the FSA has by its own admission much work to do minimise the extent of insider trading in the UK market. In 2006 a study was commissioned by the FSA that examined a total of 769 merger announcements on the London stock exchange from 2000 to 2005 (Dubow and Monteiro 2006). The study examines each takeover announcement for abnormal returns over a four day event window. Their findings suggest that in 20% of the merger announcements surveyed informed trading appears to be present. Concerns could be raised with this study that it does not go far enough and that full extent of the activity is not captured. In much of the literature significant abnormal returns are recorded over periods as much as fifty days prior to the announcement (Meulbroek 1992).

2.7 The future of enforcement and regulation

While the policy, as it manifests through the legislation, appears adequate to deal with market abuse in its many forms, evidence of insider activity in the form of abnormal returns remains. In addition to this there has been a clear admission by the FSA that securing successful prosecutions is fraught with difficulty (Cole 2007). If changes are to occur, these are more likely to relate to a strategic rather legislative change. In a review of 'suspicious transaction reports' (STRs) the FSA confirmed that it had received 266 STRs between July 2005 and October 2006, of these 255 related specifically to alleged incidences of insider trading (Barnes 2009). Commentators have argued that the regulation should be based upon a set of principles rather than defined circumstances and should shift the focus towards compliance (Barnes 2009). This is achievable through directing attention to the compliance efforts of companies deemed likely to be involved in market abuse. The introduction of STRs in addition to the implementation of software systems which in real time identify notable changes in the share price and the volume of transactions for listed companies (SABRE 2 an acronym for Surveillance and Business Reporting Engine), are new measures which it is hoped will increase the monitoring capacity and effectiveness of the authority.

3 Data

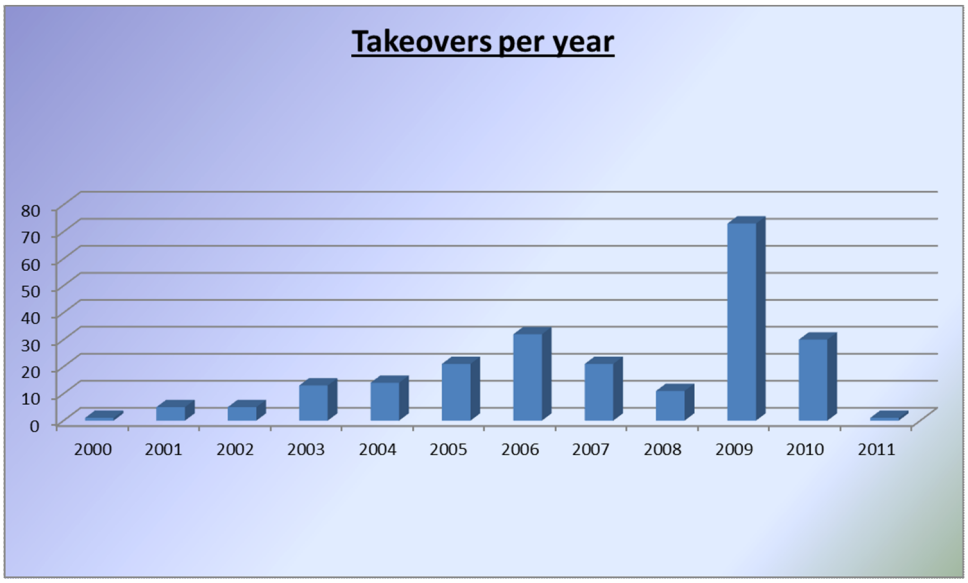
The market for corporate control incorporates a number of restructuring processes that fall under the umbrella term takeover, consequently in the literature this can refer to mergers, acquisitions, proxy contests or tender offers.

In mergers, acquisitions and tender offers the bidding firm proposes to buy shares in the target firm for a price that is higher than the target firm's value, and which is thought to be reflective of future income generated from the target's assets following the deal. In the case of Mergers and Acquisitions the management in the target company is approached about the deal and in order to go ahead approval is required from the target company's board of directors. In a tender offer the bidding company approaches the shareholders directly to buy the shares. The proxy contest is an attempt to win seats on the Board of Directors usually as a result of an activist group emanating from within the shareholder or management groups (Jenson and Ruback 1983).

For the purpose of our investigation we will exclude both tender offers and proxy contests from our sample, as a higher degree of legitimate leakage is possible to larger groups of people thereby blurring the line between what is considered to be public and private information.

Restricting the sample to Mergers and Acquisitions, the deals identified involve 227 target companies which are listed on the London Stock Exchange. All deals were completed and carried out in the UK between March 2001 and January 2011. Details of each deal were acquired though the Zephyr database. Figure 1 illustrates the breakdown of the Mergers and acquisitions as they occurred in each of the years through the sample. The most intense periods in takeover activity occurs in 2006 and 2009; these years could be seen as marking the high and low points of economic activity within the decade respectively. The number of takeovers in the latter year far exceeds those which occurred the former year indicating that the motivations underpinning decisions could have been value rather than growth based. All offers are in the form of cash or equity with the exception of one which was financed through the issuing of corporate bonds. Constituents for the sample including the dates involved are listed in Table VII in the appendix.

Figure 1. Number of Takeovers per year for the sample



In our analysis we will estimate abnormal returns surrounding two specific events for each of the deals. The announcement date is often used in the literature to mark the date at which the information becomes public. The definition for this date collected through Zephyr is the day upon which either a formal offer has been made to merge with or to acquire the target company or when one of the parties involved has confirmed that the deal is to go ahead.

Measuring the anticipatory effect created for a reason other than public disclosure can only be achieved with any degree of accuracy if we factor in the possibility that news of the impending change could itself be viewed as the event. If the markets are informationally efficient then the first day in which the possibility of a merger or takeover is openly discussed could see the target's share price move in response. As a consequence, for each deal in the sample we examine the date at which a rumour first appeared in addition to the announcement date. The former date is defined as that day on which the possibility of a forthcoming deal is first mentioned. This may be the first time it is reported in the media, or issued as a company press release. The announcement date doubles as the rumour date in instances where the first indication of the possibility of a move is the day upon which the deal is announced. From our entire sample, 39 of the 227 deals have a rumour date that is different from the day in which the deal is announced. The mean average length between the dates is 231 trading days although this reduces to 118 when outliers are removed. With such a large discrepancy in trading days there is a distinct possibility that more informed trading could occur prior to a rumour when the possibility of the trade being linked with the announcement is less. The solution is to test both events independently of one another to ascertain whether abnormal returns are evident. Table I provides a breakdown of both samples in terms of size. Although the number of observations in the sample differ the average size of the deal expressed as both the arithmetic mean and the median remain similar.

Table 1. Deal Sizes

Sample	Obs	Mean	SD	Median	Maximum	Minimum
Announced	207	261088.7789	1365518.8714	9885.4950	14849363.0000	2.8600
Rumoured/Announced	193	286384.0979	1412209.7042	9527.8800	14849363.0000	2.8600

Presented abow are the deal sizes for the target firms analysed in both samples statistics relating to size are given in £ (thousands)

Prices used to generate returns for each company in the sample were obtained from Datastream. Once missing observations are removed as a consequence of the pre – event estimation period stretching beyond the date of the firm's establishment the sizes for the announced and rumoured event samples are 207 and 193 firms respectively.

The accounting information used to construct the variables that control for hypothesised factors that signal an increased probability that the company could become subject to takeover were obtained from Zephyr. Table II provides the summary statistics for the variables; these have been shown in previous empirical studies (Palepu, 1986, Sony & Walkling, 1993, North, 2001 among others) to be possible signalling factors which could offer an explanation for observed pre-event run ups.

Contained in Table 2 are the summary statistics for the variables which are investigated as possible signalling factors. These are analysed as independent variables in a cross sectional OLS regression where the dependent variables are the variant measures of event anticipation which represent trading activity prior to news of the intended takeovers is made public. Insider trading (*IT*) takes the value of 1 if disclosed trades have been made by company insiders within a three month period before the event occurrence. The data for this was obtained from a sample of declared insider trades provided by Directors Deals. *MC* is the logged pre deal market capitalisation of the target firm. Net profit margin (NPM) is calculated through dividing the profit before tax for the company by the turnover in the same year for that company. *GRM* The extent to which growth and resources are mismatched (GRM) is attained through dividing the previous year's turnover by the total assets for that year. The book to market value for the firm (BMTV) is computed using the by the dividing the Shareholder's equity by the Market capitalisation of the firm, these figures are taken from the previous year's annual reports for each company. All accounting figures in addition to the event dates for each Merger or Acquisition were obtained from Zephyr and were taken from the annual reports in the year immediately prior to the event. Where there is a negative value in shareholder equity (NVSE) this takes the value of 1 if shareholders equity value is negative and 0 if this is not the case.

Table 2. Descriptive Statistics

Variable	Mean	SD	Median	Maximum	Minimum
IT	0.1131	0.3177	0.0000	1.0000	0.0000
MC	-21109.8615	226128.1156	-8.5568	834.2412	-2567725.0000
NPM	10.1097	2.2814	9.6546	17.1282	5.6858
GRM	0.9652	1.2197	0.5670	9.0359	-0.3194
BMTV	0.8870	2.9511	0.4061	12.5345	-21.3334
NVSE	0.0928	0.2909	0.0000	1.0000	0.0000

A further variable named declared insider trades is also introduced to attempt to explain pre-emption of the event. If an insider's buy trade has been declared to the FSA and made public, then this could possibly indicate to outside investors that the company increases in possibility for takeover. Information on these trades was obtained from a dataset provided through Director's Deals. From this a dummy variable was constructed where a value of 1 was assigned if a Director bought shares in the target company in the period of three months preceding the event date that is analysed.

4 Methodology

Analysing trading surrounding event dates

In order to analyse the firm returns prior to the dates when takeovers become imminent an event study is employed following the process set out in McKinlay (1997). The method allows for detection of abnormal returns surrounding the day the news is made public either through formal announcement or when a rumour surfaces in the press. Abnormal returns are calculated according to the benchmarks

recommended by Brown and Warner (1985). These are the market and the constant mean return model. Both models use a separate estimation period which does not overlap with the event window period. For this study this begins for both models at day -160 and finishes at day – 61. The event window period spans from day -60 up to day +10, where the event occurs at day t = 0.

The market model benchmark assumes that security returns are estimable using a single factor market model as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

Where R_{it} is the rate of return of the common stock of target i on day t and R_{mt} equates to the return on the FTSE All Share Market index which is sourced from Datastream. ε_{it} is the random error term which is assumed to have an expected value of zero and is uncorrelated both with R_{mt} and the returns for security i over the estimation period. The error term is also assumed not to be auto-correlated and to be homoskedastic. β_i represents the slope parameter taken from the OLS regression between returns of stock i and with returns on the market over the estimation period. Beta is thus a measure of the sensitivity of the returns on the stock to the market index returns.

Abnormal returns according to this model are assumed to be realised as follows:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$$

The coefficients a_i and β_i are estimates and are the products of an OLS regression between the returns of stock i and the market over the designated estimation period. Abnormal returns are then averaged across the entire sample of target company securities to obtain a sample mean.

$$AAR_t = \frac{\sum_{i=1}^{N} AR_{it}}{N}$$

Where N refers to the number of firms in the sample and t represents the trading day within the event window period. The Cumulative Average Abnormal Return (CAAR) is then computed for the desired number of days within the event window period as follows:

$$CAAR_{T_1,T_2} = \frac{1}{N}\sum_{i=1}^{N}\sum_{t=T_1}^{T_2} AR_{it}$$

Where T_1 represents the first trading day and T_2 is the final trading day within the abnormal return series. The constant mean adjusted model is computed through finding the arithmetic mean return for the firm stock i over the estimation period similar to that previously described. The average return figure is then subtracted from the return on each trading day in the event window period.

$$AR_{it} = R_{it} - \bar{R}_i$$

The procedures for arriving at AAR_{it} and $CAAR$ are similar to those described for the market model.

The degree of statistical significance following parametric assumptions is ascertained using a t-test similar to that employed in Bialkowski et al 2011. This approach enables volatility stemming from the event to be incorporated into the test through retaining the estimation within the event window period.

$$t(CAAR(n_1, n_2)) = \frac{CAAR(n_1, n_2)}{\sigma(AAR) * \sqrt{n_1 - n_1 + 1}}$$

Where n_1 *and* n_2 represent the start and finish dates of the event window and $\sigma(AAR)$ is the standard deviation from the mean of abnormal returns which is calculated from daily observations over the period over which the event is measure.

A further test for significance is carried out using when the parametric assumptions are relaxed. This investigates whether the proportion of positive CARs can differ from 0.5. (This test is defined in Białkowski et al 2008). It is computed as follows:

$$z = \frac{p - 0.5}{\sqrt{p(1-p)/N}}$$

Where p is the observed proportion of CARs which are positive and N refers to the size of the sample.

4.1. Controlling for external factors

In the attempt to investigate these other possible contributory factors to the pre event run-up a cross-sectional OLS regressions model is constructed using a number of indicators identified through the literature on Mergers and Acquisitions as independent variables. The regressions are performed using the CARs and two separate measures of Run-up Indexes generated from both the Rumour and announcement samples as dependent variables. The models can be displayed as follows:

$$(1)\quad CAR_i = \alpha + \beta IT_i + \beta MC_i + \beta NPM_i + \beta GRM_i + \beta BMTV_i + e_i$$
$$(2)\quad RU1_i = \alpha + \beta IT_i + \beta MC_i + \beta NPM_i + \beta GRM_i + \beta BMTV_i + e_i$$
$$(3)\quad RU2_i = \alpha + \beta IT_i + \beta MC_i + \beta NPM_i + \beta GRM_i + \beta BMTV_i + e_i$$

Where *CAR* equals to the cumulative abnormal return in the sample of target companies prior to the event date, $RU1_i$ and $RU2_i$ are run-up indexes constructed following Bannerjee (2001), the *CARs* in each sample are separated into a pre-event phase designated as a Run-up period, an event gain phase and a post event drift phase.

$$Runup - \sum_{t=-60}^{t=-1} AR_t$$

$$Event\ Gain - \sum_{t=0}^{t=-1} AR_t$$

$$Post\ Event\ Drift - \sum_{t=10}^{t=-1} AR_t$$

A Run-up index *(RU1)* is then computed for each of the *CARs* and this is considered to be the proportion of the Run-up to the entire premium gained by the target company shareholders.

In the spirit of Bannerjee (2001) it is defined thus:

$$Premium - Runup + Event\ Gain$$

$$RU1 = \frac{Runup}{Premium} \times 100$$

The second Run-up index *(RU2)* is calculated using the CAR from the entire event window period as the denominator; it can be displayed as:

$$RU2 - \frac{Runup}{Premium + Post\ Event\ Drift} * 100$$

IT is a dummy variable which takes the value of 1 if declared insider trading takes place during the three months immediately prior to the event date used to generate the dependent variable. The data on declared insider trades was sourced at Directors Deals and refers to the dates that shares were bought by directors or officers within each of the target companies in the samples. *MC* refers to the lognormal market capitalization of each firm; this is estimated through multiplying the share price by the total number of shares outstanding in the company, this ratio is transformed using the logarithmic process to ensure a normal distribution in the sample. *NPM* is the company's Net Profit Margin; this is calculated by dividing the profit before tax for the firm by its turnover. *GRM* is a variable taken to represent the mismatch between growth and resources, it is computed through dividing the turnover realised in the previous year by the estimated value of the total assets for that year.

Finally the variable *BMTV* represents the book to market value ratio and is computed by dividing the value of the previous year's shareholder equity by its market value for the same period. The figures for these variables were taken from the previous year's annual reports provided through the Zephyr Database.

A further variable, negative value of shareholder equity (NVSE) is added to represent instances where the value of book to market ratio falls below zero allowing further power to investigating situations where companies are close to insolvency. Regression coefficients are tested for statistical significance using standard student t tests. The results of the regressions are displayed in Table 3 and are discussed according to each of the factors in turn.

5 Results

5.1 Evidence of price run up surrounding announcement and rumour dates

The Cumulative Average Abnormal Returns (CAAR) for the announcement sample is given in Table III and Figure 2. The results demonstrate that there is evidence to support the hypothesis that statistically significant abnormal returns are realisable before the event date. The findings are conclusive when both the market model and constant mean return benchmarks are used. For both these benchmarks CAARS remain consistently positive and maintain this sign from early in the event window period at 55 days prior to the event. Similarly when the daily average abnormal returns (AAR) are counted, in the sixty days prior to the announcement date AAR is positive for 43 days for the constant mean return model while the figure is 41 days for the market model. For both models there is a drop in CAARs on the day of the announcement, this is not consistent with much of the literature. It suggests that information pertaining to the event has for the most part been assimilated into the price prior to the announcement being made. Interestingly, in the five days before the event date AAR is consistently negative. If insider trading is behind the abnormal returns then there is a decided absence of activity immediately preceding the announcement. This could signal that in order to exercise caution insiders shy away from conspicuously flouting the rules. Furthermore, the absence of a surge of immediate pre-event positive AARs fails to strengthen the idea that the takeovers in question are publicly discernible.

Reported in the Table 3 are the cumulative abnormal returns for the event windows surrounding the announcement of forthcoming Mergers or Acquisitions which have since been completed. The cumulative average abnormal returns are calculated from prices denominated in UK sterling and is expressed in percentage terms; the sample in total consists of 208 Companies. Panel A contains CAARs defined over event windows of various sizes for which abnormal returns are calculated using the constant mean return model providing an expected return, this is generated using the estimated average of returns in each company 100 trading days immediately prior to the first day of each event window. In Panel B CAARs are calculated from returns generated using the Market Model, which

estimates returns from coefficients taken from an OLS regression using a estimation period similar to that of the previous model. Listed in the third and fourth column of each panel are the t-statistics and p-values for the sample of CARs, this tests the hypothesis that as a collective the mean of the Cumulative abnormal returns is equal to zero. The final three columns in each panel of the table below report the results of a non parametric investigation that bases its tests on the hypothesis that cumulative abnormal returns are equal to zero when the assumption that returns are normally distributed is removed. The null hypothesis attests that the proportion of negative and positive CARs are equally balanced, where the mean is equal to zero and the standard deviation is equal to one.

Table 3. Cumulative Average Abnormal Returns surrounding Announcement date

Panel A: Constant Mean Return Model

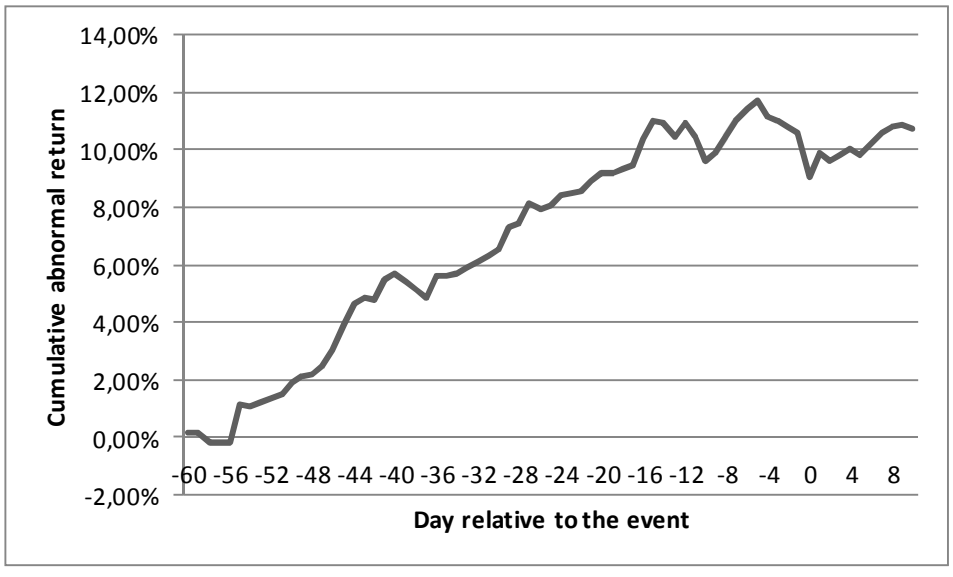
Event Window	CAAR	t-stat	p-value	Proportion of positive CARs	z-stat	p-value
(-60, -1)	10.5822%	3.4615	0.0010	0.5604	1.7504	0.0400
(-60, 10)	10.7616%	2.9539	0.0043	0.5362	1.0453	0.1479
(0, 10)	0.1794%	0.0954	0.9956	0.4638	-1.0453	0.8521

Panel B: Market Model

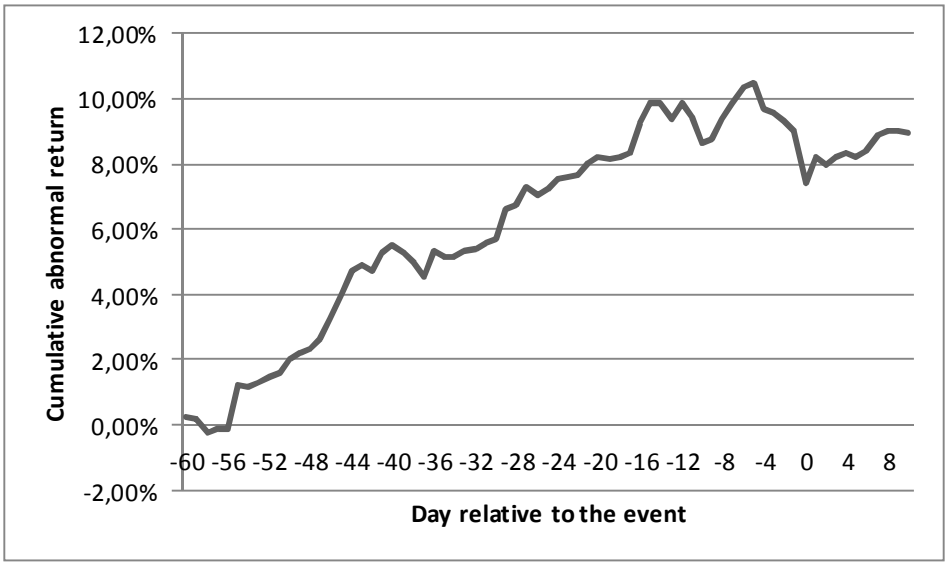
Event Window	CAAR	t-stat	p-value	Proportion of positive CARs	z-stat	p-value
(-60, -1)	9.0314%	2.8735	0.0056	0.5550	1.6007	0.0547
(-60, 10)	8.9455%	2.4165	0.0182	0.5407	1.1798	0.1190
(0, 10)	-0.0859%	-0.0434	0.9662	0.4641	-1.0403	0.8509

Figure 2. Cumulative average abnormal returns to sample of target companies surrounding announcement date of Takeover

Panel A: Constant-Mean Return Model



Panel B: Market Model



As targets are held to consistently deliver positive premia as a result of announcement of a proposed deal, cumulative abnormal returns from the day of the announcement up to the tenth day after the event are examined separately. These findings show that with respect to announcements, the market meets a proportion of the deals proposed with genuine surprise. The presence of a positive CAR however is suggestive of the possibility that private information drives trading on a number of target company's shares in the sample prior to the announcement.

Turning now to the investigation using the first date at which news of the impending deal appears in the public sphere, it can be seen from Table IV and Figure 3 that both benchmarks demonstrate that positive CARs of a slightly greater magnitude are attained through the rumoured sample. The similar sizes could be explained by the similarities of the two samples, 39 of the 193 firms examined display a rumour date that is separate from the announcement date, the difference that does exist however may suggest that insider trading could be more likely to occur prior to a rumoured rather than the announcement date as the possibility of detection would perhaps be less likely. However this assertion is undermined by the proportion of deals displaying positive CAARs which is only slightly greater for the sample that investigates the announcements. A further notable point is that in the 11 days following the event date the CAARs drop in magnitude to the tune of 0.4% for the constant mean return model and 0.69% for the market model, as buying pressure eases following the release of the information (See Table 4).

The results recorded in the following table are the cumulative abnormal returns for the event windows surrounding the rumour date for a Merger or Acquisition which has since been successfully completed. The cumulative average abnormal returns are expressed in percentage terms; the entire sample used includes 192 target companies. Panel A contains CAARs calculated using the constant mean return model, both event windows defined span from day t = -60 to day t = 0 and from day t = -60 to day t =+10 respectively. The benchmark model used in Panel A provides an expected return equating to an average of 100 trading days immediately prior to the first day of each event window. In Panel B CAARs are generated using the Market Model to estimate expected returns, this computes an expected return using coefficients taken from an OLS regression over an estimation period spanning 100 days and which ends immediately prior to the first day of the event window. The third and fourth column of each of the panel's reports the t-statistics and p-values for the series of CARs, and tests the hypothesis that the mean of the Cumulative abnormal returns is equal to zero. The remaining three columns in both panels below report the results of a non parametric z test which investigates the hypothesis that the mean cumulative abnormal returns equates to zero removing the assumption that the CARs are normally distributed . Under the null hypothesis the proportion of negative and positive CARs share equal weight, upon which the mean is equal to zero and standard deviation is equal to one.

Table 4. Cumulative Average Abnormal Returns surrounding Announcement/Rumour date

Panel A: Constant Mean Return Model

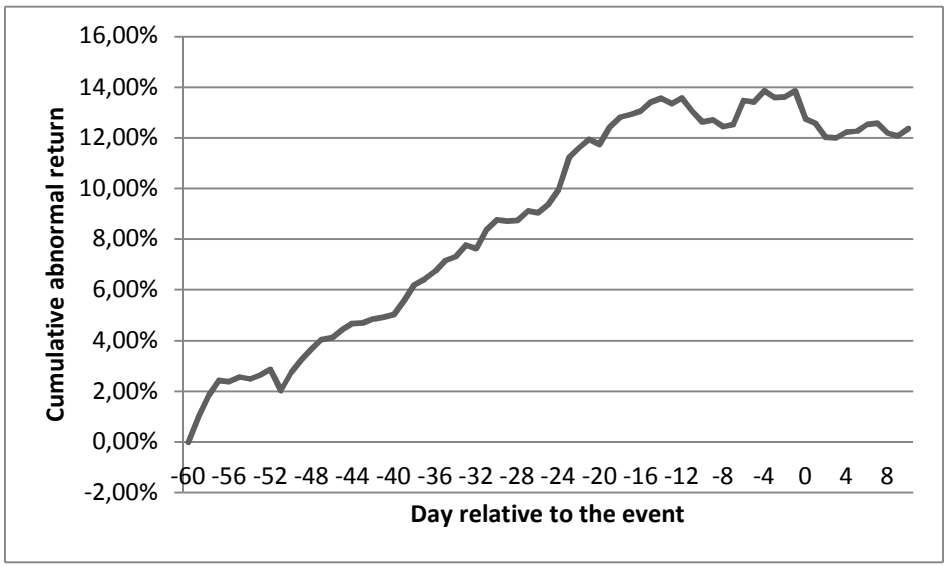
Event Window	CAAR	t-stat	p-value	Proportion of positive CARs	z-stat	p-value
(-60, -1)	13.8459%	4.8282	0.0000	0.5596	1.6675	0.0477
(-60, 10)	12.3654%	3.6893	0.0004	0.5648	1.8148	0.0348
(0, 10)	-1.4805%	-1.0068	0.3085	0.4404	-1.6675	0.9523

Panel B: Market Model

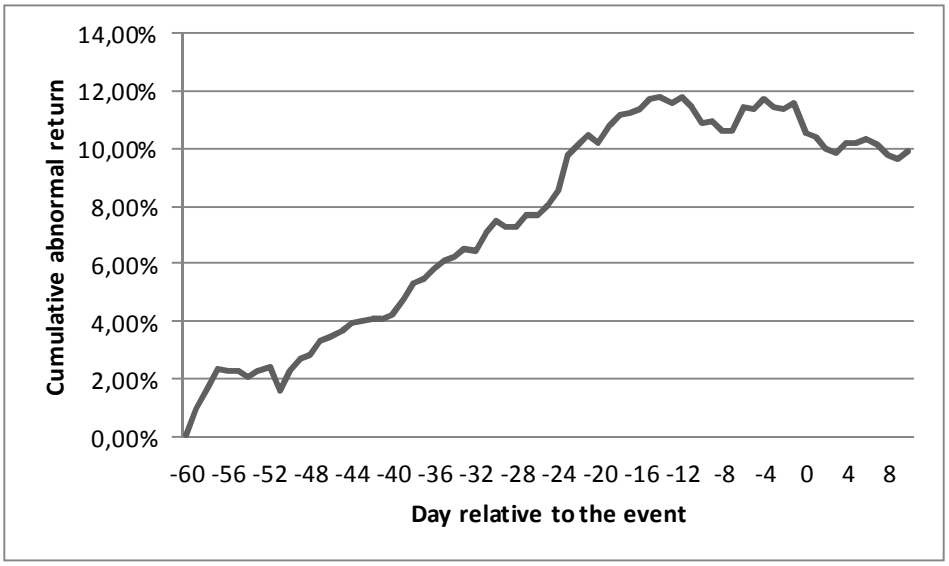
Event Window	CAAR	t-stat	p-value	Proportion of positive CARs	z-stat	p-value
(-60,-1)	11.5756%	4.1741	0.0000	0.5692	1.9523	0.0255
(-60, 10)	9.8910%	3.1100	0.0027	0.5436	1.2220	0.1108
(0, 10)	-1.6847%	-1.4043	0.1878	0.4410	-1.6586	0.9514

Figure 3. Cumulative average abnormal returns to sample of target companies surrounding rumour/announcement date of Takeover

Panel A: Constant-Mean Return Model



Panel B: Market Model



Note: Portrayed in Figure 2 are the cumulative average abnormal returns in an event window for a sample of companies 6o trading days preceding and 10 days following the first published rumour of a Merger or Acquisition, the sample examines 193 events in the UK markets over a period of 119 months from March 2001 to January 2011.

It would appear that for both the announcement and rumour sample statistically significant cumulative abnormal returns are present before the occurrence with each date. This is consistent with the hypothesis that informed trading using these is taking place prior to the public dissemination of the information. The magnitude of the run-up is similar to results produced by Jarell and Poulsen (1989) who record abnormal returns of 11% on a similarly sized sample where the event date employed equates to the day on which the news is publicly disseminated.

There are a number of alternative explanations which could account for the run-up. A large body of literature has been devoted toward determining possible signals of impending takeovers. Consequently a number of factors have been identified as publicly observable features of targeted companies, these become signals that point to the increased likelihood that a takeover is imminent.

5.2 Controlling for publicly observable signals

5.2.1. Declared Insider Trading

From the results of the OLS regressions it is clear that disclosed insider trading does not play a major role in contributing to the magnitude or presence of the pre event price run-up. While this particular variable has not been tested in the literature to date, the evidence is not convincing, with respect to the sample that announced trades could be linked to abnormal pricing. Therefore it would be safe to assume that company directors and top executives refrain from trading prior to the announcement or first indication of the possibility that a takeover may occur. These findings do not provide evidence to successfully argue that trading on insider information does not occur. A tradition of information leakage (as has been evidenced in several of the successful prosecutions by the FSA) ensures that the net of possible insiders spreads much wider than those who sit in the boardroom. The implications that can be drawn from this are that while the reporting system does appear to deter directors and senior executives from trading ahead of takeover announcements these measures can directly control only a small number of the group of people that could have access to this information. If informed trading is driving the upsurge in returns prior to the event then it can only be concluded that this is the product of undisclosed illegal insider trading, thus corroborating the observations made in the UK context by Korczak et al (2010).

5.2.2. Size

Numerous studies (Sony and Walkling 1993, Palepu 1986, Ambrose and Megginson 1992, Cudd and Duggal 2000) have shown that takeovers are more likely to happen to smaller companies. There are a number of possible reasons for this, either as companies increase in size the pool of possible acquirers grows smaller. A second reason relates to the fact that the probability of a takeover decreases as size determined transaction costs increase (Barnes 2009). Further to this, in comparison with larger companies the capacity of smaller companies to dedicate resources to a defensive campaign is much less. Market capitalisation *(MC)* is employed to proxy for size in the company immediately prior to the announcement. Despite the support for this factor in the literature, it is apparent from Table 3 that the findings do not concur conclusively with the idea that size has anything to do with the likelihood that a

takeover will occur. A statistically significant but slight relationship is observed between the second run up measure (RU2) in the announcement sample using the constant mean return benchmark. However, this does not remain consistent across the remaining models, neither is a relationship present in the announcement sample. Taken together these results suggest that the size of the target firms was not acted upon as a signalling factor for a possible takeover.

5.2.3. Profitability

This is a factor that allows one to gauge the probability of a takeover based on the premise that a firm can be inefficiently managed. Several studies indicate that unprofitable firms are more likely to become the target of a takeover than their profitable counterparts (Singh 1971, 1975, Kuehn 1975, Palepu 1986). It follows intuitively that firm shareholders, being concerned primarily with performance, show less tendency to resist advances from acquirers. When the significance of the relationship with the net profit margin figures (NPM) is examined, it appears that profitability offers a statistically significant but very small explanation using both benchmarks for the CARs in the announcement sample; however, these results are not consistent across the models investigated. This indicates that the hypothesis that unprofitability acts as a signal cannot be supported. In the rumoured sample no statistically significant relationship is detected.

5.2.4 Growth Resource Mismatch

In the event where the growth in turnover is mismatched with the assets which the company has at its disposal then there may be an increased likelihood of takeover. There are two types of firms that can become likely targets, the first has low growth but holds high resources, and the second demonstrates high growth while holding few resources. The inclusion of this variable is founded upon Maris's (1964) inefficient management hypothesis which allows that the market offers a mechanism by which poorly managed firms can be transferred to the control of more capable managers. A number of studies have pointed to possibility of this as an identifying factor (Palepu 1986, North 2001, Barnes 1999). When considering this in a multivariate cross-sectional regression framework no specific sign is hypothesised as managers could target firms displaying attractive growth prospects or instead could hone in on resource rich firms. For this analysis findings show that as a signal it demonstrates a statistically significant but slight relationship with the second run-up index variable (RU2) in the rumoured sample. No relationship is detected with the run up before the intention to merge or acquire a firm is officially announced. The mismatch between growth and resources and its relationship to run-up ahead of merger announcements is not apparent through these findings.

5.2.5. Undervaluation

It can be often the case that a firm is snapped by a purchaser because its market value falls short of the value of its asset. Undervaluation has been indicated in a number of studies to be a signal of inefficient management and could attract those interested in stripping and selling off the company's assets but also firms who could manage the company more efficiently to make better use of its assets. Consequently, if a firm displays a low Book to Market value ratio then it is considered to increase in attractiveness as a takeover target. The findings presented in Table 3 indicate that there is some evidence in support of this idea as the relationship is statistically significant at 5% and 1% in the rumour model using both benchmarks models respectively. However no link is evident with the run up ahead of the announcement date. Based on these results the relationship is open to question, while it may in some instances indicate a motivation for the company to be taken over it is not does not provide convincing proof that undervaluation provides the information that instigates trading ahead of the events. NVSE, which distinguishes between deals where the BMTV of the target company is negative. Therefore this offers some support to the notion that investors have the capacity to spot a likely takeover ahead of its announcement. The relationship is demonstrated with CARs ahead of the release of information in the rumoured sample.

Of the three models employed, the model that uses the CAR as the dependent variable offers the most explanation as demonstrated through R squared values. Across both samples these results are consistent with the market model delivering greater explanatory power than the constant mean return benchmark.

Results reported in Table 5 are the coefficients and standard errors (in parentheses) taken from OLS regressions showing the statistical significance of the correlations between the pre-bid price run-up and publicly discernible variables that reportedly signify increased probability that companies are more likely to be targeted for takeover. Each of the dependent variables expresses the price run up for the in percentage terms. Cumulative abnormal returns (CAR) are used up to day t=0. Run-Up Indexes 1 and 2 express the cumulative abnormal returns on each day prior to the event as a proportion of the entire abnormal returns recorded over the event window period. The total returns to calculate Run-Up Index 1 cover the entire period running up to day t= 10, for Run-Up Index 2 abnormal returns up to day t = 0 are used. All prices used to generate returns were obtained from DataStream. Observable factors that are reported in the literature to increase the likelihood

that a company becomes target for a takeover are the independent variables in the regressions. Insider trading (*IT*) is a dummy variable which takes the value of 1 if declared insider trading occurred within the company in a three month period before the event occurred. The information on insider trades was sourced from a sample of declared insider trades provided by Directors Deals. The variable *MC* represents the logged pre deal market capitalisation for the targeted firm in the takeover. The net profit margin (*NPM*) is computed by dividing the profit before tax for the firm by its turnover. *GRM* is a variable taken to represent the growth resource mismatch; this is calculated by dividing the previous year's turnover by the total assets for that year. The Book to market value for the firm *(BMTV)* is generated by dividing the Shareholder's equity of the firm by its market capitalisation; this information was obtained from the previous year's annual reports for each firm. NVSE represents the instances when the firm's shareholders hold negative equity in the company, taking the value of 1 if this is the case and 0 otherwise. Previous year's annual reports for each company in the sample were used to obtain figures that were used to construct the preceding variables. The table below also reports the R squared value for each regression.

Table 5. Controlling for other factors attributed to Pre bid target price run-up around Announcement date

Panel A: Constant Mean Return Model

Controlling factor	*CAR*	*Run-Up Index 1*	*Run-Up Index 2*
Intercept	-0.5036 (0.3916)	746.1637 (675.6857)	-1.5257 (1.3016)
IT	0.2004 (0.2784)	19.3506 (480.39)	-0.4108 (0.9254)
MC	0.04651 (0.0340)	-59.2877 (58.5870)	0.2257** (0.1129)
NPM	0.0000*** (0.0000)	0.0042 (0.0243)	0.0000 (0.000)
GRM	0.0000 (0.0000)	-108.787 (174.3221)	0.0000 (0.0000)
BMTV	-0.0430 (0.0303)	21.5953 52.2444	0.0341 (0.1006)
NVSE	0.0000 (0.000)	0.0000** (0.000)	0.0000 (0.000)
R-square	0.1712	0.1332	0.0820

Panel B: Market Model

Controlling factor	*CAR*	*Run-Up Index 1*	*Run-Up Index 2*
Intercept	-0.2329 (0.3606)	-0.1048 (0.5600)	0.8991 (0.6973)
IT	0.3512 (0.2291)	0.1479 (0.3215)	-0.4758 (0.4430)
MC	0.0169 (0.0314)	0.0656 (0.0475)	0.0034 (0.0608)
NPM	0.0000*** (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
GRM	-0.0114 (0.0867)	0.1834 (0.1340)	-0.0994 (0.1677)
BMTV	0.0179 (0.0224)	0.0137 (0.0331)	-0.0067 (0.0433)
NVSE	0.0000 (0.2531)	0.0000 (0.0000)	0.0000 (0.0000)
R-square	0.2066	0.0605	0.0233

*, **, *** denote statistical significance at 10%, 5% and 1% respectively

The results recorded in Table 6 investigate the statistical significance of the hypothesised relationship between a measure of pre-bid price change activity and publicly observable factors that have been shown to signify increased probability that each firm in the sample is likely to become the target of a takeover. The dependent variables are variant expressions of the price run up for the sample expressed in percentage terms. CAR represents the pre-event cumulative abnormal returns up to day t=0. The Run-Up Indexes are the measure of pre-event abnormal returns as a proportion of the total abnormal returns over the event window period. With Run-Up Index 1 the total abnormal returns used finishes at day t =10, while with Run-Up Index 2 the abnormal returns are used only up to day t =0 in the event window. Price information used to calculate returns was obtained from DataStream. The independent variables in the regressions represent the observable factors that reportedly increase the probability that the firm to which they are related becomes a more likely target for takeover. Insider trading (IT) is a dummy variable which takes the value of 1 if declared insider trading occurred within the company in a three month period before the event occurred. The data for this was obtained from a sample of declared insider trades provided by Directors Deals. MC refers to the logged pre deal market capitalisation for the target firm. NPM is the net profit margin which is calculated through dividing the profit before tax for the company by the turnover for the company. GRM refers to the growth resource mismatch and is computed by dividing the previous year's turnover by the total assets for that year. BMTV is the Book to market value for the firm calculated from the previous year's annual reports for each firm. All accounting figures in addition to the event dates for each Merger or Acquisition were obtained from Zephyr and were taken from the annual reports in the year immediately prior to the event. NVSE takes the value of 1 if shareholders equity value is negative and 0 if this is not the case. Regression coefficients together with standard errors (in parenthesis) are reported for each variable in each of the regressions. The R squared value for each of the regressions is reported below.

Table 6. Controlling for other factors attributed to Pre bid target price run-up around Announcement/Rumour date

Panel A: Constant Mean Return Model			
Controlling factor	*CAR*	*Run-Up Index 1*	*Run-Up Index 2*
Intercept	0.1990 (0.4145)	0.5650 (0.5584)	0.9106 (0.6169)
IT	-0.0773 (0.2537)	0.2888 (0.3418)	-0.0343 (0.3776)
MC	-0.0050 (0.0367)	0.0215 (0.0500)	-0.0336 (0.0550)
NPM	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
GRM	-0.1737 (0.0997)	0.1739 (0.1343)	0.3376** (0.1484)
BMTV	0.0718** (0.0239)	0.0166 (0.0322)	0.0240 (0.0356)
NVSE	0.0000** (0.0000)	0.0000* (0.0000)	0.0000 (0.0000)
R-square	0.1705	0.1107	0.1090
Panel B: Market Model			
Controlling factor	*CAR*	*Run-Up Index 1*	*Run-Up Index 2*
Intercept	-0.1997 (0.3261)	1.1748*** (0.2578)	0.7698 (0.5435)
IT	0.0318 (0.2062)	-0.2085 (0.1630)	-0.3019 (0.3436)
MC	0.0176 (0.0292)	-0.0215 (0.0231)	-0.0103 (0.0486)

NPM	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)
GRM	-0.0477	0.0191	0.2367**
	(0.0685)	(0.0542)	(0.1142)
BMTV	0.0549***	0.0048	0.0239
	(0.0191)	(0.0151)	(0.0318)
NVSE	0.0000***	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)
R-square	0.2142	0.0606	0.0990

*, **, *** denote statistical significance at 10%, 5% and 1% respectively.

6 Conclusions

This study investigated the pricing behaviour of successfully completed takeover target firm stocks in the period surrounding the first announcement or appearance of a rumour pertaining to the impending event. Having identified abnormal pricing behaviour it then goes on to rule out other possible explanations that could account for this phenomenon.

To the best knowledge of the author, this study is the first to specifically examine pricing behaviour around both announcement and rumour dates specifically relating to Mergers and Acquisitions in the ten year period since FMSA (2000). It goes further than previous studies of its kind in that it assesses the effectiveness of regulation and enforcement initiatives through employing a wider event window. It also analyses CARs to investigate whether these could be attributable to a combination of publicly observable signals.

In both samples the results indicate that there appears to be activity that suggests informed trading occurs prior to the public release of the information. The appearance of CARs forerunning announcements is something which has been well documented in the literature (Seyhun 1992, Meulbrook 1992, Jarrell and Poulsen 1989, Korczak et al 2010, among others). The FSA itself has produced work documenting a price run-up ahead of announcements (Dubow and Monteiro 2006).

The influence of the media rumours on CARs can be ruled out when a sample is constructed consisting of rumour dates and announcement dates for which no previous indication of an impending bid exists. The presence of a run-up prior to a rumour date is something which has been confirmed by Pound and Zeckhauser (1990). However as resulting CARs are similar for both samples this means that assertions by Neely (1987) , Keown and Pinkerton (1981) and Jarrell and Poulsen's (1989) that the run-up is in some way a product of the media generated rumour can be ruled out. The similarity in CARs is explained by the fact that in both samples the majority of event dates are the same and that in all firms the takeovers are eventually completed. Insider activity is more plausible ahead of a rumour date because rumours are generated by market watchers who notice unusual activity in firms stocks (Pound and Zeckhauser 1990), in the instances where rumours turned out to be true the change noticed could have been informed.

As the presence of rumours in the media does not appear to influence abnormal returns the temptation is to ascribe the price behaviour to unidentified insider trades. However, much of the literature points to the possibility that signals are present which appear when a firm experiences a heightened probability of being targeted for takeover. Of the variables included in the cross sectional regression, profitability and value offer the greatest possibility that CARs can in part be generated by externally observable signals.

There is however a lack of consistency across samples and models used, so it would be imprudent to offer full support for the idea that other reasons behind creating the abnormal returns can be eliminated for consideration.

It is also interesting to note that declared insider trades do not appear to bear any strong relationship with the price run-up prior to the information release. Those occupying key positions that would have access to price sensitive information do not visibly trade on this knowledge. As known insiders do not carry out the trades it is clear that the private information becomes diffused from its decision making source. This may occur in a number of ways, in the UK, a number of successful prosecutions have been brought against individuals who have received tip offs that a takeover may occur or who have had access to this knowledge while acting as an intermediary. Furthermore the opportunities to disseminate the information to individuals to act on the behalf of the senior people within a company who are compelled to disclose trading activities still remain. Although the legislation is designed to take these conditions into consideration following up on every suspicious trade and tracing the information on which this was based back to its source would be an almost impossible task.

In conclusion, this study demonstrates that despite enhanced legislation and powers of enforcement insider trading ahead of mergers and acquisitions continues to occur in the UK. In light of this evidence the efficacy of the current system for preserving market integrity must come into question. The question policymakers are left with is, if market abuse legislation proves ineffective should the response be to strengthen legislation and/or to endow the FSA with greater powers? Certainly a situation where disequilibrium of information between investors is allowed to exist that will serve only to increase the cost of equity for all market participants.

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Appendix

Table A. Deal List

Outlined below is the constituent list for the sample of announced mergers and the sample of the rumoured/announced mergers together with the release dates of the information. The announced sample list contains dates on which the impending takeover was officially released. For the Rumoured/Announced sample list the dates relate to the day the news reached the public domain, the announcement date is used when no rumour for the impending deal emerged prior to the official release of the information.

Announced			Rumoured/Announced		
1	Lloyds Banking Group plc	03/11/2009	1	Lloyds Banking Group plc	10/08/2009
2	Xstrata plc	29/01/2009	2	Xstrata plc	29/01/2009
3	Fitbug Holdings plc	19/10/2010	3	Fitbug Holdings plc	19/10/2010
4	Burberry Group plc	17/11/2005	4	Burberry Group plc	14/10/2004
5	Stagecoach Group plc	10/09/2004	5	Stagecoach Group plc	10/09/2004
6	Foreign & Colonial Investment Trust plc	02/07/2004	6	Foreign & Colonial Investment Trust plc	02/07/2004
7	Billiton plc	18/03/2001	7	Billiton plc	18/03/2001
8	Mecom Group plc	09/03/2007	8	Mecom Group plc	09/03/2007
9	3i Group plc	08/05/2009	9	3i Group plc	27/04/2009
10	Hammerson plc	09/02/2009	10	Hammerson plc	09/02/2009
11	Premier Foods plc	12/07/2006	11	Premier Foods plc	12/07/2006
12	Segro plc	04/03/2009	12	Segro plc	18/02/2009
13	Raven Russia Ltd	31/03/2006	13	Jarvis	17/04/2005
14	Intermediate Capital Group plc	02/07/2009	14	Raven Russia Ltd	31/03/2006
15	National Express Group plc	11/11/2009	15	Intermediate Capital Group plc	02/07/2009
16	William Hill plc	27/02/2009	16	National Express Group plc	06/05/2009
17	Aga Foodservice Equipment	19/10/2007	17	William Hill plc	12/02/2009
18	Cookson Group plc	29/01/2009	18	Aga Foodservice Equipment	06/07/2007
19	Grainger plc	05/11/2009	19	Cookson Group plc	29/01/2009
20	Inchcape plc	19/03/2009	20	Grainger plc	05/11/2009
21	Northgate plc	08/11/2010	21	Inchcape plc	12/01/2009
22	ACP Capital Ltd	20/03/2007	22	Northgate plc	08/11/2010
23	Quintain Estates and Development plc	05/11/2009	23	Genting Singapore	24/11/2004
24	Gasol plc	15/12/2005	24	ACP Capital Ltd	20/03/2007
25	Marston's plc	18/06/2009	25	Quintain Estates and Development plc	18/03/2009
26	Lupus Capital plc	19/03/2007	26	Gasol plc	15/12/2005
27	Biocompatibles International plc	19/11/2010	27	Marston's plc	18/06/2009
28	Avis Europe plc	25/06/2010	28	Lupus Capital plc	19/03/2007
29	Mecom Group plc	22/05/2009	29	Biocompatibles International plc	20/09/2010
30	Wichford plc	20/06/2005	30	Avis Europe plc	25/06/2010
31	Galliford Try plc	10/09/2009	31	Mecom Group plc	23/03/2009
32	Burford Capital Ltd	24/11/2010	32	Wichford plc	20/06/2005
33	Borders & Southern Petroleum plc	26/11/2009	33	Galliford Try plc	10/09/2009
34	Speedy Hire plc	28/05/2009	34	Burford Capital Ltd	24/11/2010
35	European Nickel plc	18/05/2006	35	Borders & Southern Petroleum plc	26/11/2009
36	GTL Resources plc	08/08/2005	36	Speedy Hire plc	28/05/2009
37	Northgate plc	10/07/2009	37	European Nickel plc	18/05/2006

38	Workspace Group plc	27/01/2009	38	GTL Resources plc	08/08/2005
39	BowLeven plc	09/06/2009	39	Northgate plc	10/07/2009
40	Conygar Investment Company plc	15/09/2009	40	Workspace Group plc	14/01/2009
41	Jarvis plc	27/05/2005	41	BowLeven plc	09/06/2009
42	Zimbabwe Platinum Mines Ltd	30/06/2003	42	Conygar Investment Company plc	15/09/2009
43	Sterling Energy plc	14/08/2009	43	Zimplats Holdings	30/06/2003
44	John David Group plc	11/05/2005	44	Sterling Energy plc	14/08/2009
45	Blackstar Investors plc	20/07/2006	45	John David Group plc	11/05/2005
46	Wichford plc	05/08/2009	46	Blackstar Investors plc	20/07/2006
47	Conygar Investment Company plc	29/01/2007	47	Paypoint	16/11/2003
48	Cookson Group plc's plastic mouldings businesses	02/01/2002	48	Conygar Investment Company plc	29/01/2007
49	Finsbury Emerging Biotechnology Trust plc	02/05/2006	49	Cookson Group plc's plastic mouldings businesses	02/01/2002
50	Rockhopper Exploration plc	26/10/2009	50	The Biotech Growth Trust	10/03/2006
51	Blackstar Investors plc	03/01/2006	51	Blackstar Investors plc	03/01/2006
52	Synchronica plc	29/03/2007	52	Synchronica plc	15/03/2007
53	Cove Energy plc	18/09/2009	53	Cove Energy plc	18/09/2009
54	Brammer plc	06/10/2009	54	Brammer plc	06/10/2009
55	Midas Income & Growth Trust plc	27/01/2006	55	Midas Income & Growth Trust plc	04/01/2006
56	Avesco plc	29/03/2007	56	Avesco plc	29/03/2007
57	National Bus Company	03/09/2004	57	National Bus Company	03/09/2004
58	Johnson Service Group plc	11/06/2008	58	Johnson Service Group plc	11/06/2008
59	E2V Technologies plc	29/10/2009	59	E2V Technologies plc	29/10/2009
60	Real Estate Investors plc	20/12/2006	60	Real Estate Investors plc	20/12/2006
61	Energiser Investments plc	24/12/2009	61	Energiser Investments plc	24/12/2009
62	PSG Solutions plc	30/04/2009	62	PSG Solutions plc	20/03/2008
63	Vertu Motors plc	28/05/2009	63	Vertu Motors plc	28/05/2009
64	President Petroleum Company plc	30/09/2010	64	President Petroleum Company plc	30/09/2010
65	Regent Inns plc	20/10/2009	65	Clyde Process Solutions plc	23/03/2007
66	Clyde Process Solutions plc	23/03/2007	66	Vernalis plc	11/02/2010
67	Vernalis plc	11/02/2010	67	Discover Leisure plc	19/06/2003
68	Discover Leisure plc	07/06/2007	68	Rurelec plc	13/12/2005
69	Rurelec plc	13/12/2005	69	Cove Energy plc	11/03/2010
70	Cove Energy plc	11/03/2010	70	Phytopharm plc	03/12/2009
71	Phytopharm plc	03/12/2009	71	Vernalis plc	29/04/2009
72	Vernalis plc	29/04/2009	72	SkyePharma plc	01/09/2008
73	SkyePharma plc	01/09/2008	73	Islamic Bank of Britain plc	27/07/2010
74	Islamic Bank of Britain plc	27/07/2010	74	Nwide.Accid.Repr.Svs.	14/03/2002
75	Colliers Cre plc	06/10/2009	75	Colliers CRE plc	30/09/2009
76	Rexam plc's two food flexibles businesses	18/03/2002	76	Rexam plc's two food flexibles businesses	18/03/2002
77	Western & Oriental plc	15/05/2007	77	Western & Oriental plc	15/05/2007
78	Hampson Industries plc	01/12/2006	78	Hampson Industries plc	01/12/2006
79	Millwall Holdings plc	20/03/2006	79	Millwall Holdings plc	20/03/2006
80	Tottenham Hotspur plc	05/07/2007	80	Tottenham Hotspur plc	07/06/2007
81	Fitzwilliam Capital plc	27/07/2005	81	Getmobile	27/07/2005
82	First Property Online plc	28/11/2000	82	First Property Online plc	28/11/2000
83	Lupus Capital plc	03/03/2006	83	Lupus Capital plc	01/02/2006

84	Catalyst Media Group plc	12/03/2007	84	Blavod Black Vodka plc	15/09/2003
85	Blavod Black Vodka plc	23/12/2003	85	Sterling Energy plc	22/12/2003
86	Sterling Energy plc	25/09/2003	86	Asset Management Investment Company plc	26/10/2010
87	Asset Management Investment Company plc	07/12/2010	87	Impax Group plc	02/08/2006
88	Impax Group plc	02/08/2006	88	Millwall Holdings plc	17/11/2010
89	Millwall Holdings plc	17/11/2010	89	MJ Gleeson Group plc's Internal Plant Hire Operations	01/07/2005
90	MJ Gleeson Group plc's Internal Plant Hire Operations	01/07/2005	90	Matra Petroleum plc	03/11/2005
91	Matra Petroleum plc	13/03/2006	91	Axis-Shield plc	07/10/2009
92	Axis-Shield plc	07/10/2009	92	API Group plc	17/12/2007
93	API Group plc	17/12/2007	93	Watford Leisure plc	14/03/2006
94	Argo Real Estate Opportunities Fund Ltd	02/10/2009	94	Ventus Vct	05/04/2005
95	Watford Leisure plc	14/03/2006	95	Xtract Energy plc	07/08/2006
96	Xtract Energy plc	07/08/2006	96	Jarvis Securities plc	31/03/2009
97	Jarvis Securities plc	31/03/2009	97	Ventus Vct	06/04/2006
98	Optare plc	03/09/2009	98	Core Vct IV	05/04/2007
99	Omega Diagnostics Group plc	17/11/2010	99	Delcam plc	30/03/2007
100	Delcam plc	30/03/2007	100	Brainspark plc	28/12/2001
101	Golden Prospect Precious Metals Ltd	09/04/2009	101	Forum Energy plc	02/07/2008
102	Brainspark plc	28/12/2001	102	Kiotech International plc	03/11/2006
103	Forum Energy plc	25/07/2008	103	Kiotech International plc	03/10/2005
104	Diamondcorp plc	15/03/2010	104	Inditherm plc	20/11/2003
105	Kiotech International plc	03/11/2006	105	SynAIRgen plc	27/05/2009
106	African Copper plc	21/05/2009	106	Noble Investments (UK) plc	04/11/2005
107	Inditherm plc	20/11/2003	107	Eredene Capital plc	10/04/2006
108	SynAIRgen plc	27/05/2009	108	Capital Management & Investment plc	11/03/2010
109	Noble Investments (UK) plc	04/11/2005	109	Summit Corporation plc	11/12/2009
110	Eredene Capital plc	10/04/2006	110	Silverdell plc	31/03/2009
111	Capital Management & Investment plc	01/04/2010	111	Matra Petroleum plc	07/07/2009
112	Summit Corporation plc	11/12/2009	112	FFastFill plc	24/02/2005
113	Chalkwell Investments plc	01/11/2010	113	Accumuli plc	01/04/2004
114	Kiotech International plc	05/08/2009	114	Global Energy Development plc	09/11/2010
115	Silverdell plc	07/04/2009	115	Archipelago Resources plc	06/06/2005
116	Matra Petroleum plc	07/07/2009	116	Archipelago Resources plc	30/09/2004
117	FFastFill plc	01/04/2004	117	Octopus Eclipse Vct 4	05/10/2005
118	Accumuli plc	09/11/2010	118	Anglo Pacific Group plc	07/10/2004
119	Global Energy Development plc	06/06/2005	119	SWP Group plc	01/04/2004
120	Archipelago Resources plc	24/12/2004	120	Vyke Communications plc	22/04/2010
121	Gemfields Resources plc	21/10/2008	121	Mid-States plc	12/05/2010
122	Anglo Pacific Group plc	07/10/2004	122	Octopus Eclipse Vct 2	18/03/2005
123	SWP Group plc	30/04/2004	123	Densitron Technologies plc	20/11/2003
124	Vyke Communications plc	22/04/2010	124	Inditherm plc2	13/12/2006
125	Mid-States plc	12/05/2010	125	Gasol plc2	25/07/2006
126	Lombard Medical Technologies plc	09/01/2009	126	Energy Technique plc	29/03/2004
127	Densitron Technologies plc	20/11/2003	127	Zoo Digital Group plc	30/07/2007
128	Inditherm plc	13/12/2006	128	Proximagen Neuroscience plc	05/06/2009
129	Gasol plc	25/07/2006	129	Archipelago Resources plc	27/01/2010

130	Energy Technique plc	30/03/2004	130	Tottenham Hotspur plc	06/11/2008
131	Zoo Digital Group plc	30/07/2007	131	Framlinton Aim VCT 2	19/12/2005
132	Access Intelligence plc	18/11/2004	132	Goldstone Resources	20/09/2005
133	Proximagen Neuroscience plc	05/06/2009	133	Downing Abst Vct 1	30/09/2001
134	Cyan Holdings plc	14/08/2008	134	Clinical Computing plc	30/10/2007
135	Archipelago Resources plc	27/01/2010	135	Greggs plc	16/04/2004
136	Empresaria Group plc	30/04/2009	136	Condor Resources plc	27/06/2008
137	Tottenham Hotspur plc	06/11/2008	137	Artisan (UK) plc	22/06/2009
138	Sirius Exploration plc	14/07/2009	138	Infoserve Group plc	29/01/2010
139	GoldStone Resources Ltd	20/09/2005	139	Energy Technique plc	30/09/2005
140	Downing Healthcare Protected Venture Capital Trust	30/09/2001	140	Abbeycrest plc	28/08/2009
141	Clinical Computing plc	30/10/2007	141	Woburn Energy plc	10/12/2008
142	Greggs plc	16/04/2004	142	Feedback plc	05/06/2007
143	Condor Resources plc	27/06/2008	143	Metrodome group	01/08/2007
144	Watermark Global plc	20/05/2009	144	Property Recycling Group plc	24/02/2009
145	eXpansys plc	29/05/2009	145	Energy Technique plc	13/04/2006
146	Artisan (UK) plc	22/06/2009	146	Works Media Group plc	23/11/2006
147	Infoserve Group plc	29/01/2010	147	Energy Technique plc	29/03/2001
148	Energy Technique plc	30/09/2005	148	Arcontech Group plc	21/09/2009
149	Abbeycrest plc	28/08/2009	149	CLS Holdings plc	12/06/2009
150	Woburn Energy plc	17/12/2008	150	Oak Holdings plc	02/03/2010
151	Feedback plc	05/06/2007	151	Pittards plc	23/12/2009
152	Property Recycling Group plc	24/02/2009	152	African Copper plc	09/05/2006
153	Energy Technique plc	13/04/2006	153	UMC Energy plc	16/10/2009
154	Works Media Group plc	23/11/2006	154	Cookson Group plc	11/03/2009
155	Energy Technique plc	29/03/2001	155	Messaging International plc	22/03/2007
156	Arcontech Group plc	21/09/2009	156	1pm plc	12/03/2010
157	CLS Holdings plc	12/06/2009	157	Deltex Medical Group plc	28/10/2003
158	Oak Holdings plc	02/03/2010	158	Dominion Energy	11/01/2006
159	Pittards plc	23/12/2009	159	Charles Street Capital plc	30/06/2010
160	African Copper plc	09/05/2006	160	1pm plc	24/10/2007
161	UMC Energy plc	16/10/2009	161	Servoca plc	06/03/2009
162	Cookson Group plc	11/03/2009	162	Coolabi plc	19/05/2006
163	Caspian Holdings plc	22/05/2009	163	Radicle Projects plc	15/12/2009
164	Messaging International plc	22/03/2007	164	John David Group plc	19/01/2006
165	1pm plc	12/03/2010	165	Highams Systems Services Group plc	30/09/2008
166	Deltex Medical Group plc	28/10/2003	166	Parallel Media Group plc	11/09/2006
167	Charles Street Capital plc	30/06/2010	167	Solo Oil plc	16/11/2009
168	LP Hill plc	21/08/2009	168	RGI International Ltd	25/03/2009
169	1pm plc	24/10/2007	169	Eatonfield Group plc	28/10/2009
170	Servoca plc	06/03/2009	170	Tri-Star Resources	19/10/2009
171	Coolabi plc	19/05/2006	171	Deo Petroleum plc	05/05/2010
172	Radicle Projects plc	15/12/2009	172	Metrodome Group plc	23/08/2007
173	John David Group plc	19/01/2006	173	Capcon Holdings plc	01/07/2009
174	Highams Systems Services Group plc	30/09/2008	174	Millennium & Copthorne Hotels plc	21/03/2003
175	Parallel Media Group plc	11/09/2006	175	Archipelago Res.4	21/11/2003

176	Solo Oil plc	16/11/2009	176	Johnston Press plc	14/05/2008
177	RGI International Ltd	25/03/2009	177	Pathfinder Minerals plc	05/03/2010
178	Eatonfield Group plc	28/10/2009	178	Caledonian Trust plc	12/10/2004
179	Mastermailer Holdings plc	02/04/2009	179	Mediazest plc	17/08/2009
180	Deo Petroleum plc	05/05/2010	180	White Young Green plc	30/10/2009
181	MeDaVinci plc	08/07/2009	181	Jersey Electricity Company Ltd	30/11/2004
182	Metrodome Group plc	16/05/2008	182	Specialty Scanners plc	09/09/2003
183	Capcon Holdings plc	01/07/2009	183	Xstrata plc	20/02/2002
184	Millennium & Copthorne Hotels plc	21/03/2003	184	Avis Europe plc	25/09/2002
185	Johnston Press plc	14/05/2008	185	Workspace Group	01/06/2001
186	Pathfinder Minerals plc	05/03/2010	186	Zimplats Holdings Limited	30/06/2005
187	Caledonian Trust plc	12/10/2004	187	St. James's Place Capital plc	21/03/2006
188	Mediazest plc	17/08/2009	188	Hightwz Group	27/03/2006
189	White Young Green plc	06/01/2010	189	F&C Capital and Income Investment Trust plc	22/05/2006
190	Leed Petroleum plc	06/11/2009	190	St. James's Place plc	25/10/2006
191	Rangers Football Club plc	23/04/2003	191	British Airways plc	12/11/2009
192	Hot Tuna (International) plc	13/08/2009	192	Redstone plc	24/08/2010
193	KleenAir Systems International plc	13/11/2009	193	Archipelago Res.6	24/01/2011
194	Jersey Electricity Company Ltd	30/11/2004			
195	Specialty Scanners plc	09/09/2003			
196	Avis Europe plc	25/09/2002			
197	Workspace Group	01/06/2001			
198	National Express Group plc's Airlinks coach business	07/01/2005			
199	Zimplats Holdings Limited	30/06/2005			
200	St. James's Place Capital plc	21/03/2006			
201	F&C Capital and Income Investment Trust plc	22/05/2006			
202	Mitchells & Butlers plc's 21 pubs	31/08/2006			
203	St. James's Place plc	25/10/2006			
204	British Airways plc	08/04/2010			
205	London & Stamford Property Ltd	05/08/2010			
206	Associated Network Solutions plc	23/09/2004			
207	Redstone plc	24/08/2010			