



## Rational expectations, analysts' forecasts of earnings and sources of value gains for takeover targets

Sudi Sudarsanam<sup>a,\*</sup>, Ayo Salami<sup>b</sup>, George Alexandrou<sup>c</sup>

<sup>a</sup> *Cranfield School of Management, Cranfield University, Cranfield MK43 0AL, UK*

<sup>b</sup> *Nomura International, London, UK*

<sup>c</sup> *University of Essex, Colchester, UK*

Received 10 August 1998; accepted 23 October 2000

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### Abstract

Value gains to target firm shareholders in takeover bids may be due to potential synergy between bidder and target and/or potential target restructuring based on new information released by the bid. Since these two models have different implications for the anticipated earnings of the target as a *stand-alone* entity, analysts' earnings forecast revisions (AFR) for the target during the bid may provide evidence for the new information hypothesis. For 326 UK targets of takeover bids during 1987–1993, we estimate analysts' earnings forecast revisions using the Institutional Brokers Estimate System (IBES) and relate them to bid premia paid to target shareholders. Analysts revise their forecasts significantly up on bid announcement. For failed, especially failed hostile, bids, the earnings forecast revision and bid premium are more positively correlated than for successful and friendly bids. This is consistent with the rational expectations behaviour of target shareholders modelled by Grossman and Hart [S.J. Grossman, O.D. Hart, *Bell Journal of Economics* 11(1) (1980) 42; S.J. Grossman, O.D. Hart, *Journal of Finance* 36 (1981) 253]. © 2002 Elsevier Science B.V. All rights reserved.

*JEL classification:* G14; G34

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\* Corresponding author. Tel.: +44-1234-754423; fax: +44-1234-752554.

*E-mail address:* p.s.sudarsanam@cranfield.ac.uk (S. Sudarsanam).

*Keywords:* Rational expectations; Takeovers; Shareholder gains; Earnings forecasts; Synergy; New information

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## 1. Introduction

A takeover bid often represents a major capital investment decision for the bidder and important restructuring for the target with implications for the future earnings of both companies. Extant empirical literature documents that the shareholders of target companies in takeover bids experience substantial wealth gains whereas those of the bidder companies experience at best small positive gains and at worst losses (see Jarrel et al., 1988, for the US; Franks and Harris, 1989, for the UK). The source of the wealth gain to target shareholders is still unresolved.

Sirower (1997) argues that synergy is often overstated as a rationale for acquisitions. Campbell and Goold (1998), based on an organisational perspective, share this scepticism about synergy. It appears that synergy is either illusory or elusive. On the other hand, Bradley et al. (1983) present evidence that value gains to target firms in takeovers are due to synergy rather than new information about potential target restructuring. We, therefore, need further empirical evidence as to the relative importance of synergy and other sources of value creation so that managers contemplating acquisitions do so based on realistic expectations.

Synergy is a function of the fit between the target and the bidder. This restricts the number of potential bidders for the target and the bargaining position of the target shareholders. On the other hand, if value gains arise from potential restructuring of the target as a *stand-alone* entity, these can be achieved by the incumbent target managers even if the bid fails or by other bidders. This greater flexibility enhances the bargaining power of the target shareholders. The opposite considerations apply to the bidder shareholders.

Thus understanding the source of value gains is important in determining the relative bargaining powers of bidders and targets and how they share the value gains. Indeed, one of the reasons for analysts to continue to forecast the stand-alone target earnings after bid announcement is to enable investors to value the target if it were to stay independent. Target shareholders can then use this valuation as a benchmark in their decision to accept or reject the bid. Many investment banks offer stockbroking and investment research services as well as merger and acquisition advisory services. Earnings forecasts of these in-house analysts may thus provide an intra-organisational input to the M&A advisory teams in pricing deals and in developing negotiating strategies for their clients.

Analysts' earnings forecast revisions help target shareholders form rational expectations about the true value of their company, thereby influencing their

bargaining strength, the bid premium and the probability of bid success. Combining the new information and rational expectations perspectives we develop and test hypotheses relating earnings forecast revisions and bid premia to target shareholders. Analysts' earnings forecast revisions can also reduce the information asymmetry between target shareholders and a bidder. We examine, using an information asymmetry model of the choice of payment method by bidders, the relation between earnings forecast revision and bid premia in acquisitions financed by different payment methods.

For a sample of 326 UK takeover targets during 1987–1993, we find abnormal analysts' forecast revisions of earnings amount to a significant 10% with current year and following year forecasts. We also find, consistent with rational expectations, a significant positive relation between bid period abnormal returns and earnings forecast revisions for failed bids and for failed hostile bids. We report weak evidence, consistent with an information asymmetry model of payment currency in acquisitions, that earnings forecast revisions are more strongly and positively correlated with target returns in equity offers than in cash or mixed offers.

Our study differs from two previous US studies of the impact of takeover on analysts' earnings forecast revisions, in focus and results. Unlike Brous and Kini (1993) and Pound (1988), we focus on the relation between expected earnings changes in target firms and the bid period returns to their shareholders rather than on the information content of analysts' earnings forecasts revisions alone. We emphasise the value relevance of such revisions rather than the characteristics of such revisions in different types of acquisitions. We employ UK data. While our results are overall consistent with those of Brous and Kini (1993), we find that, in contrast, hostile bids are not neutral in their impact on earnings expectations. Indeed, such revisions in failed, and in particular failed hostile, bids have a significantly more positive impact on target shareholder returns than friendly bids. Our results differ from Pound's (1988) conclusions of no new information in earnings forecast revisions and a negative impact of management resistance.

The paper is organised as follows. Section 2 describes the alternative value creation models in takeovers. Section 3 reviews the previous literature. The data and methodology are described in Section 4. Section 5 presents and discusses the results. A summary and conclusions are provided in the final section.

## **2. Models of value creation in takeovers**

Value can be created from acquisitions by various types of synergy including operational, financial and managerial (Datta et al., 1992; Sudarsanam et al., 1996). However, synergy gains are conditional upon the bid leading to the

merger of the bidder and target. If a takeover is motivated by synergy, physical consolidation of the bidder and target assets is necessary to create value (Chatterjee, 1992). Alternatively, value gains to the target may be due to new information released by the bid about the scope for profitable improvement of the target's stand-alone operations. "While an acquiring firm can extract value by restructuring the acquired firm such restructuring can also be carried out independently by the target firm without takeover" (Chatterjee, 1992). This new information hypothesis implies that value-creating improvements are possible even without the target being taken over by the bidder.

### *2.1. Rational expectations of value creation*

Grossman and Hart (1980) model, within the rational expectations framework, the likelihood of a (disciplinary) takeover by a 'raider' of a target currently inefficiently operated. Under the assumptions of an atomistic share ownership structure and full information, such a bid is bound to fail since the target shareholders push the bid premium to a level where all the takeover gains are passed on to them and the bidder is left with no gains. Thus the incentive to make disciplinary bids is eliminated. This suggests that such bids may be characterised by not only high bid premia but also a high probability of failure.

Grossman and Hart (1981) compare two alternative types of takeover – allocational and acquisitional – and model, again within the rational expectations framework, the bid premium and the likelihood of bid success. They assume that the target management, albeit acting in the shareholders' interest, may be inefficient and not have the best information about the status quo value of the firm or about potential value enhancements that could be achieved by a better production decision i.e., through target restructuring. In an allocational takeover, an outsider has information about the potential improvements and makes a bid to acquire the target and change the production decision.

On the other hand, in an acquisitional bid, the raider has information about the undervaluation of the target by the stock market in certain states of nature and makes a bid to exploit this undervaluation opportunistically. In contrast to an allocational bid, an acquisitional bid requires no change in the production decision.<sup>1</sup>

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<sup>1</sup> Grossman and Hart (1981) argue that it may be difficult for target shareholders to distinguish between acquisitional and allocational bids. Brous and Kini (1993) also discuss the undervaluation (i.e., acquisitional) hypothesis but assume that the two hypotheses are the same. In this paper we focus on allocational bids since analysts' earnings forecast revisions point to potential restructuring.

With asymmetric information between target shareholders and the bidder, and the rational expectations of shareholders that the bidder's valuation of the target is higher than its current value under incumbent management, a bidder must offer high bid premium and the probability of bid failure is also high. The consequent revaluation of the target will persist even if the bid fails. Grossman and Hart (1981) cite prior empirical evidence from Dodd and Ruback (1977) that target firms' shares sell at a premium relative to their pre-bid value after an unsuccessful takeover bid, in support of their model.

## 2.2. *Analysts' earnings forecast revisions and rational expectations*

The post-acquisition earnings of the target may increase due to synergy with the bidder or target restructuring. In the former case future earnings of both bidder and target may increase whereas in the latter event only target earnings may increase. At the time of the bid, target wealth gains can reflect both sources.<sup>2</sup> Such ambiguity does not, however, cloud the stand-alone earnings forecast revision for the target made at bid time since it can only reflect the anticipated earnings improvement due to potential restructuring. While information released by a bid may point to potential synergistic improvements in target earnings e.g. reduction in costs due to pooled R&D or marketing, these will be excluded from the forecasts of the stand-alone earnings of the target. While both synergy and new information models lead us to expect value gains to targets on bid announcement, only the new information model predicts a significant improvement in the stand-alone future earnings of the target.

In the context of the rational expectations model of Grossman and Hart (1981), analysts' forecast revisions may form the basis of such expectations by target shareholders in allocational takeovers. Further, the forecast revisions may also help these shareholders differentiate allocational bids from purely acquisitional ones. An important difference between the Grossman and Hart model of an allocational bid and Chatterjee's (1992) model of restructuring as a source of value in takeovers is that the latter assumes the target management can carry out restructuring, even when the bid fails. This assumption is consistent with the evidence cited by Grossman and Hart (1981) that the target firm's shares are valued at a premium even when a bid fails.

For our research, the Grossman and Hart model has the following implications: (1) Bid premia and stand-alone target earnings forecast revisions are

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<sup>2</sup> As recognised by Brous and Kini (1993), in a given bid the two sources may not be mutually exclusive. In failed bids, in the absence of any anticipation of further bids for the targets, value gains due to synergy disappear leaving a residual which can be attributed to new information. We examine the pattern of value gains and earnings forecast revisions for failed bids below.

more likely to be correlated in allocational (new information) bids than in bids driven by synergy. (2) New information bids also have a higher tendency to fail, because shareholders have rational expectations. Conversely, failed allocational bids are likely associated with a higher level of positive new information and higher bid premia.

### 2.3. *Allocational and hostile bids*

Morck et al. (1988) argue that friendly bids are driven by synergy whereas hostile bids are disciplinarian i.e., where value can be created by restructuring the target's operations without physical consolidation with the acquirer. This dichotomy suggests that in hostile bids new information about potential target restructuring should dominate considerations of synergy. Thus hostile bids are in the nature of allocational bids of the Grossman and Hart framework. In friendly bids new information about how target performance on a stand-alone basis can be improved may be less relevant.

While a hostile bidder seeks to show how, under its management, the target can achieve higher value, the defending target management often attempts to establish that the hostile bid undervalues the target. This attempt often takes the form of increased profit forecasts, promise of higher dividends, announcement of divestments and asset revaluations.<sup>3</sup> While the information from the target management about the future earnings and dividends are based on the incumbent management's own strategies they may be constrained to incorporate what the hostile bidder may propose by way of restructuring the target. For example, if the bidder plans any asset stripping, the target managers can pre-empt it by announcing divestments. Analysts may incorporate both target's and bidder's restructuring plans and incorporate them in their earnings forecasts to the extent they affect the stand-alone future earnings of the target. Of course, the underlying presumption is that the current target management can and is willing to carry out such restructuring.

Combining the Grossman and Hart (1980, 1981) and Morck et al. (1988) perspectives on allocational and hostile bids with the new information perspective, we formulate the following hypotheses:

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<sup>3</sup> Bid resistance by the target management can take a variety of forms. Sudarsanam (1995, Chapter 12) refers to 23 such strategies in the UK. Among the most popular of these strategies are: forecasting higher than expected profits for the current year, promise of higher dividends in the future, reporting better than expected profit figures for the most recently concluded accounting year prior to the bid, and revaluation of the target assets. In Sudarsanam's sample of 238 hostile bid targets 45% made profit forecasts, 43% forecast increased dividend, 21% reported higher profits 17% announced divestments and 13% revalued assets.

**H1.** Correlation between analysts' earnings forecast revision and bid premium for targets is stronger and more positive in failed than in successful bids.<sup>4</sup>

**H2.** Correlation between target earnings forecast revision and bid premium to target shareholders is insignificant in friendly bids and significantly positive in hostile bids.

The following hypothesis combines both the bid mood and bid outcome.

**H3.** Correlation between earnings forecast revision and bid premium is more strongly positive in failed hostile bids than in successful hostile bids.

#### *2.4. Method of payment*

Hansen (1987) proposes a model of payment method choice, assuming information asymmetry between the bidder and the target. If target shareholders receive a cash offer, they may form the rational expectation that the true value of the target is higher. Analysts' earnings forecast revisions indicating potential value gains from target restructuring can contribute to these rational expectations. To combat such expectations, bidders may offer equity and thereby increase the probability of bid success since, by accepting an equity exchange offer, the target shareholders can share in the potential value gains.<sup>5</sup> This leads us to the following hypothesis:

**H4.** Correlation between earnings forecast revision and bid premium is significantly positive for equity offers but insignificant for cash offers.<sup>6</sup>

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<sup>4</sup> Consider, first, takeover bids driven by synergy. In successful synergistic bids, target shareholders may receive a bid premium but the analysts' stand-alone earnings forecast revision (AFR) is not expected to be significant. In failed synergistic bids, the bid premium disappears (Bradley et al., 1983) and earnings forecasts for targets are not revised. Hence no significant correlation is expected in synergistic bids whether successful or not. Now consider new information-driven bids. Both bid premium and AFR are expected to be positive leading to a significant positive correlation whether or not the bid succeeds. We expect this correlation to be stronger in failed bids since in such bids both bid premium and AFR are likely to reflect new information and not synergy whereas in successful bids bid premium may reflect both sources but AFR reflects only the new information.

<sup>5</sup> We thank one of the anonymous referees for this insight. For empirical evidence in support of the Hansen model, see Martin (1996).

<sup>6</sup> It may be argued that a cash offer may also include some premium to reflect bidder's expectation of value gains from target restructuring. Then there may be a positive correlation between earnings forecast revision and bid premium but this is likely to be less strong than in the case of equity offers since the latter are made precisely to combat the target shareholders' rational expectations of high value gains and high bid premium.

With mixed offers combining equity, cash and/or debt securities the correlation will depend on the proportion of equity but is likely to fall between the correlations for pure equity and pure cash offers.

### 3. Review of prior research

#### 3.1. *Stock returns and sources of value in takeovers*

Bradley et al. (1983) find that when tender offers fail, target firms are unable to maintain their value gains experienced at offer announcement unless they become subsequent bid targets. Similarly, Schwert (1996) reports that the value gains to targets are lost from about 20% to 0% over a year, when the merger deal fails. This evidence is interpreted as supportive of synergy rather than potential target restructuring suggested by new information during the bid as the source of value gains.

Chatterjee (1992) examines the value gains to targets of failed bids as well as to the bidders and the targets' rival firms. Since synergy and potential restructuring have different value implications for bidders, targets and their rivals, a comparative analysis of their value gains in the bid announcement and post-bid periods sheds light on the relative importance of the two sources of value.<sup>7</sup> Chatterjee finds strong support for the hypothesis that potential restructuring opportunities in targets are the source of value rather than synergy. Holl and Kyriazis (1997) report that abnormal returns to targets in UK bids are maintained over 3–24 months following bid failure. These contrasting results based on stock returns mean that the role of new information as a source of value to targets remains unresolved.

#### 3.2. *Analysts' earnings forecast revisions and takeovers*

Empirical examination of the earnings information content of bid announcements is extremely sparse. For a sample of 94 tender offers in the US during 1979–1984, Pound (1988) examines the analysts' earnings forecast revisions during the bid announcement month and the following months to consummation or abandonment of the bid. He finds that initial takeover bid announcements do not convey significant information since target firms' earnings forecasts for future years as stand-alone entities are not revised in a statistically or economically significant way. But, when takeover bids are

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<sup>7</sup> With synergy, on bid failure, bidders and targets lose their bid period gains whereas their rivals recover their bid period losses. With target restructuring, on bid failure, bidders lose, targets maintain their gains and the rivals maintain their bid period losses (see Fig. 2 of Chatterjee, 1992).



resisted, average earnings forecasts are revised downwards significantly. According to Pound, the market interprets typical resistance strategies as negative signals about future performance under entrenched management.

Pound assumes that the expected earnings forecast revision in the absence of a bid announcement will be zero. Earlier studies of analysts' earnings forecasts (O'Brien, 1988; Brous, 1992) provide evidence that these forecasts are subject to an optimism bias.<sup>8</sup> The forecasts are overly optimistic ahead of the fiscal year and are then systematically revised downwards as the year progresses. This suggests that the expected earnings forecast revision will be negative rather than zero as assumed by Pound.<sup>9</sup> Brous and Kini correct for the negative drift in analysts' forecasts and also for the serial correlation in forecast revisions arising from the fact that not all analysts update their forecasts on a monthly basis.<sup>10</sup>

Consistent with the new information model, Brous and Kini find a significantly positive abnormal increase in earnings forecasts. They find that earnings forecast revisions are not significant for targets which resist the predators. Their conclusion that resistance does not destroy value is inconsistent with the management entrenchment hypothesis.

We extend Brous and Kini's work to the UK takeovers. In the UK, public company acquisitions are overwhelmingly in the form of tender offers regulated by the City Panel on Takeovers and Mergers (the Panel) (Sudarsanam, 1995, Chapter 6). The City Code (the Code) of the Panel lays great emphasis on target shareholders being given adequate information of the highest integrity in a timely manner to enable them to judge the offer. Target management must obtain competent and independent advice on the offer and communicate it to the target shareholders.

The UK takeover regime imposes extensive and stringent information disclosure requirements. The Code imposes a timetable for tender offers with an

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<sup>8</sup> For similar UK evidence, see Capstaff et al. (1995) and for Japan, see Conroy et al. (1997). Analysts' earnings forecasts are similarly optimistically biased ahead of initial public offerings (Rajan and Servaes, 1997).

<sup>9</sup> Optimism bias has been attributed to the keenness of analysts to repair their relations with firms after earlier negative reports (Francis and Philbrick, 1993) or to gain access to firm management (Das et al., 1998). Analysts employed by financial conglomerates offering investment banking services may also seek to help market these services (Dugar and Nathan, 1995). In the takeover context, analysts working for investment bank advisers of targets may have an incentive to bias their target earnings forecasts upwards (Financial Times, 26 July 2000). If their earlier, pre-bid forecasts were already overoptimistic, these analysts will adjust these earlier forecasts less than unbiased analysts will. However, their pre-bid earnings forecasts may still be optimistically biased. Brous and Kini's empirical evidence and our own, reported later, confirm that earnings forecasts for target firms made outside the bid period display significant optimism bias.

<sup>10</sup> Brous and Kini report that only 20% of the analysts in their sample revise their forecasts each month.

initial open period of 21 days but, generally, with a maximum of 60 days. Any profit forecasts made by targets, although restricted to the current accounting year, must be carefully prepared to the highest standards and attested by professional advisers. Under the London Stock Exchange rules large bids also require the approval of the bidder shareholders leading to further information about the sources of value in the acquisition being released (Sudarsanam, 1995, Chapter 6). This information-rich UK environment thus facilitates testing the new information-based hypotheses.<sup>11</sup>

Our study differs from Pound's and Brous and Kini's studies in directly examining the relation between new information revealed by analysts' earnings forecast revisions and the bid premia to target shareholders within the rational expectations framework. A further difference is that we examine the relation between earnings forecast revisions and the choice of payment method by bidders within the information asymmetry framework and test a related hypothesis (see H4 above).

#### 4. Data and methodology

Analysts' earnings forecasts are drawn from the IBES database (Board et al., 1991). IBES provides analysts' consensus earnings forecasts that are revised every month. Forecasts for UK companies begin in January 1987. An initial sample of 990 bids representing all completed and failed bids in the UK during the period January 1987 to December 1993 is assembled from *Acquisitions Monthly* which also provides the announcement date, bidder and target names, offer terms and method of payment. The sample bids include mandatory bids and voluntary bids.<sup>12</sup> Of the initial sample, 606 target companies are covered on the IBES service. Of those companies covered by IBES, a specific an-

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<sup>11</sup> In the US public tender offers are regulated by the Williams Act imposing a number of information-related requirements on bidders and targets (Weston et al., 1998, Chapter 2). Bidders soliciting tenders that will result in their ownership of the target firm exceeding 5% must file a Tender Offer Statement under Schedule 14. This statement must include the bidder's intentions and business plans for the target as well as any relationships or agreements between them. Target managers recommending a tender offer also need to file Schedule 14D Recommendation statement. Target management must disclose any conflict of interest and also refrain from materially misleading statements. Tender offers must be kept open for 20 business days and revised offers kept open for another ten business days to give time to target shareholders to evaluate the offer. While our comparison of the US and UK regimes is necessarily limited, it appears that the UK regime requires a far more extensive information disclosure.

<sup>12</sup> The Code requires that mandatory bids, triggered generally by the bidder acquiring 30% or more of the target voting shares, must be a cash offer or include a cash alternative to a stock exchange offer. Similarly, where the bidder has made cash purchases of target shares exceeding 10% in the previous year, a cash alternative must be offered.

nouncement date is identified for 558 companies using both Acquisitions Monthly and Extel Financial News Summary.

Analyst's forecasts of the target's earnings for the accounting year ending immediately after the bid announcement date (current-year, FY1, earnings) and the following accounting year (following-year, FY2, earnings) are obtained from the IBES database. Inclusion in the sample requires that forecasts be available for at least five months before the bid announcement month for the current-year earnings.<sup>13</sup> FY1 forecasts are available for 326 targets, while FY2 forecasts are available for 142 targets. We examine both current year and following year forecasts since restructuring may often take more than a year to improve target earnings.<sup>14</sup>

#### 4.1. Methodology

We adopt the basic methodology of Brous and Kini (1993). The forecast revision for firm  $i$  in month  $t$  is calculated as follows:

$$FR_{i,t} = \frac{F_{it} - F_{i,t-1}}{P_i}, \quad (1)$$

where  $F_{i,t}$  is the average analysts' forecast for period  $t$  and  $P_i$  is the share price at the end of the month prior to the bid announcement month.<sup>15</sup>

A simple model of expected forecast revisions is used to correct for the optimism bias and the sluggishness of analysts' revisions. Since approximately 20% of analysts revise their forecasts every month, on average, there will be a four-month lag between individual analyst's updates. Thus forecast revisions ( $FR_{i,t}$ ) may be assumed to follow a fourth-order moving average process and the a priori expected mean forecast revision for firm  $i$  in month  $t$  will then be

$$E\{FR_{i,t}\} = k_i + \frac{1}{n} \sum_{s=1}^n e_{i,t-s}. \quad (2)$$

The forecasted component ( $k_i$ ) is a measure of the bias for firm  $i$  and is estimated as the mean of all available forecast revisions ( $FR_i$ ) outside the

<sup>13</sup> For example, if the bid announcement month was June 1990 (month 0), and the immediately following accounting year end was October 1990, then earnings forecasts for the year to October 1990, should be available from at least January 1990 or earlier. A minimum of five forecasts are required, since the observation period begins in month -3, then at least one month's forecast revision outside the observation period is available to calculate the expected forecast revision (i.e., the revision between months -4 and -5).

<sup>14</sup> Lack of earnings forecasts beyond the following year for most companies on the IBES database precludes analysis of the earnings impact of long term restructuring. Brous and Kini (1993) also examine only FY1 and FY2 forecasts.

<sup>15</sup> To minimise the impact of extreme observations, forecast revisions are winzorised with outlier values reset to two standard deviations away from the mean.

observation period,  $-3$  to  $+4$  months centred on the bid announcement month 0. The number of monthly forecast revisions used to calculate  $k_i$  ranges between 1 and 26 (with mean 9.65) for FY1 forecasts, while for FY2 forecasts, the range is 1–22 (with mean 6.06). The unexpected component ( $e_{i,t-s}$ ) is measured as the difference between  $k_{i,t}$  and actual forecast revision in month  $t$ . The unexpected component is summed over  $n$ , a minimum of one month and a maximum of four months.<sup>16</sup>

The *ex post* abnormal forecast revision (AFR) for firm  $i$  in month  $t$  is stated in Eq. (3) and tested for significance.

$$\text{AFR}_{i,t} = \text{FR}_{i,t} - E\{\text{FR}_{i,t}\}. \quad (3)$$

Buy-and-hold abnormal returns (BHARs) to target shareholders on bid announcement are used as a proxy for the bid premium and estimated using the conventional event study methodology (Brown and Warner, 1985):<sup>17</sup>

$$\text{BHAR}_{i,t} = \prod_{t=1}^{t=T} [1 + R_{i,t}] - \prod_{t=1}^{t=T} [1 + E(R_{i,t})], \quad (4)$$

where  $R_{i,t}$  is the buy-and-hold return in period  $t$ ,  $E(R_{i,t})$  is the return on firm  $i$ 's benchmark size quintile portfolio and  $T$  is the holding (observation) period.

To form the size portfolios we rank companies listed on the London International Stock Exchange (LISE) including those on the Unlisted Securities Market, based on their year-end market capitalisation each year from 1986 to 1992. Only companies for which daily share price data are available on Datastream International are included. These companies are then allotted to five portfolios of equal number with the first portfolio containing the smallest 20% of the LISE firms, the second the next smallest 20% and so on. The arithmetic equally weighted returns to these portfolios are then used as the benchmark returns for the following year. At the end of each year the portfolios are re-balanced with the same procedure as above.

BHARs are estimated over the observation period  $-20$  to  $+40$  (trading) days centred on the bid announcement day 0. In the UK, under the City Code

<sup>16</sup> For our sample, in the period, month  $-15$  to  $-3$ , we find, on average, about 18–20% of the analysts revise their forecasts each month. This frequency is similar to the 23% reported by O'Hanlon and Whiddett (1991) for their UK sample and the 20% reported by Brous and Kini (1993) for their US sample. We, therefore, employ a moving average model based on 20% revision. Our results reported in Tables 1 and 2 are robust to a fifth order moving average model. CAFRs are very similar to those with the fourth order moving average model. In their estimation of  $E\{\text{FR}_{i,t}\}$  in Eq. (2) Brous and Kini apply equal weights of 0.20 to the unexpected components,  $e_{i,t-s}$ , whereas we weight them by 0.25. However, our results when based on a weighting of 0.20 are virtually the same.

<sup>17</sup> We employ buy-and-hold arithmetic returns rather than the more conventional logarithmic cumulative returns as the former mitigate the bias in the latter (Barber and Lyon, 1997).

on Takeovers and Mergers (see Sudarsanam, 1995, Chapter 6), bids for public companies last about three calendar months (equivalent to 60 trading days approximately) from announcement. However, it has been observed that most stock market reaction to takeover bids is captured within the period days  $-20$  to  $+40$  (see Sudarsanam et al., 1996).

## 5. Results

### 5.1. Descriptive statistics

The sample of 326 target firms has a mean (median) market capitalisation of £237.7 m (£65 m). The corresponding values for bidders are £924.8 m (£211.3 m). Market capitalisation data are as at day  $-41$  prior to bid announcement day, day 0. Average offer value for the target is £313.6 m (£83.50) representing a mean premium of 56.7% (35.3%). The mean (median) number of analysts providing forecasts for the sample targets during the announcement month is 5.82 (4).

### 5.2. Bid characteristics

In our sample of 326 targets with FY1 forecasts, 276 bids are successful and 50 fail. 89 bids are hostile and 237 are friendly. Forty out of the 50 failed bids are hostile. A bid is successful if it receives the necessary minimum acceptance.<sup>18</sup> A bid is defined as hostile if the target management rejects the initial offer. A friendly offer is one that the target management does not reject but recommends to its shareholders at the outset. Acquisitions Monthly provides indication of bid hostility. Cash is offered in 144 bids, equity in 46 and mixed securities and cash in 125 bids. For the FY2 sample of 142 targets, 111 are successful and 31 fail. 55 are hostile and 87 friendly bids. 26 of the 31 failed bids are hostile. The frequency of cash, equity and mixed offers is 63, 20, and 55, respectively.<sup>19</sup> In both samples failed bids are predominantly hostile.

### 5.3. Earnings forecast revision

The mean forecast revision outside the observation period ( $k_t$  in Eq. (2)) is  $-0.0025$  ( $-0.25\%$ ) ( $t$ -statistic  $-5.61$ ) for FY1 forecasts. It is  $-0.0013$  ( $-0.13\%$ )

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<sup>18</sup> Over 50% for mandatory bids and a higher threshold stipulated by the bidder for voluntary bids.

<sup>19</sup> For 11 firms in the FY1 sample and 4 in the FY2 sample, information on the method of payment is not available.

(*t*-statistic  $-2.40$ ) for FY2 forecasts. This is consistent with the evidence from O'Brien (1988), Brous (1992) and Brous and Kini (1993) that, on average, analysts tend to overestimate future earnings and then lower their forecasts as the accounting year-end approaches.

Raw and abnormal earnings forecast revisions for the current-year earnings are presented in Panel A of Table 1. The raw forecast revisions are consistently negative throughout the pre-bid announcement months  $-3$  to  $-1$  and following bid announcement.<sup>20</sup> All the negative raw forecast revisions are significant.<sup>21</sup> The AFRs present a dramatic contrast to the raw revisions. In the four months  $-3$  to  $0$ , the AFRs are not significant. In months  $+1$  to  $+3$  they are positive and significant. AFRs are also predominantly positive in months  $0$  to  $+3$  with the percentage of positive AFRs significantly higher than random in months  $+2$  and  $+3$ . Cumulative abnormal forecast revision (CAFR) over months  $0$  to  $+3$  is  $0.48\%$  (significant at  $1\%$ ) and  $58\%$  of such forecast revisions are positive (significant at  $1\%$ ). On the other hand, mean cumulative raw earnings forecast revision over the same period is  $-0.73\%$  (significant at  $1\%$ ) with only  $34\%$  positive (significant at  $1\%$ ).

The pattern of negative raw forecast revisions and the positive AFRs emphasises the existence of optimism bias in forecast revisions and the need to account for this bias as suggested by Brous and Kini (1993). The significant positive CAFR confirms that takeover bids have information content and influence the perceptions of analysts and their earnings forecasts.

Table 2 presents the forecast revisions of FY2 earnings. The pattern of raw and AFRs in the pre-announcement and post-announcement months is broadly similar to that observed for current year earnings. CAFR over the post-announcement period, months  $0$  to  $+3$ , is  $0.47\%$  (significant at  $1\%$ ) with  $56\%$  of revisions positive (significant at  $10\%$ ) whereas it is  $-0.59\%$  with raw revisions (significant at  $1\%$ ). Only  $40\%$  of such revisions are positive (significant at  $1\%$ ). Thus the FY2 forecast revisions lend further support to the view that takeover announcements have information relevant to analysts forecasting future earnings.

The mean CAFR of  $0.48\%$  (FY1 forecast) and  $0.47\%$  (FY2 forecast) over months  $0$  to  $+3$  translate to mean cumulative revisions of nearly  $10\%$  of forecast earnings per share (EPS) if we assume a conservative average price earnings ratio (PER) of  $20$  for our sample (for the UK, Financial Times All

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<sup>20</sup> In the following analysis we do not report the abnormal earnings forecast revisions for month  $+4$  of the observation window since they are not significant for either FY1 or FY2 forecasts. We therefore restrict our post-announcement observation window to months  $0$  to  $+3$ .

<sup>21</sup> Significance tests for mean forecast revisions are based on cross-sectional standard errors during the observation periods. Percentage positive revisions are tested using the binomial test against a null proportion of  $50\%$ .

Table 1  
AFRs, abnormal forecast revision, of earnings with current-year (FY1) earnings forecasts and BHARs for targets<sup>a</sup>

*Panel A: Earnings forecast revisions*

Month relative to event month	Raw forecast revisions	Percentage positive	Abnormal forecast revision	Percentage positive	No. of obs.
-3	-0.0035*** (-3.94)	23.8*** (9.09)	-0.0002 (-0.24)	49.3 (-0.23)	302
-2	-0.0040*** (-4.76)	19.9*** (-10.69)	-0.0000 (0.01)	46.5 (-1.24)	316
-1	-0.0034*** (-4.88)	21.5*** (-10.17)	0.0006 (0.73)	46.4* (-1.29)	317
0	-0.0040*** (-4.82)	23.9*** (-9.42)	-0.0003 (-0.35)	53.1 (1.11)	326
+1	-0.0016*** (-3.02)	25.8*** (-8.46)	0.0018*** (2.65)	51.0 (0.34)	306
+2	-0.0015** (-1.76)	32.2*** (-6.72)	0.0019** (1.92)	55.9** (2.00)	288
+3	-0.0006 (-1.05)	30.6*** (-6.33)	0.0021*** (2.89)	58.9*** (2.89)	265
Cumulative (0 to +3)	-0.0073*** (-5.56)	34.0*** (-5.76)	0.0048*** (3.32)	58.0*** (2.88)	326

*Panel B: Buy-and-hold abnormal returns*

Event window	Buy-and-hold returns	Percentage positive	
-20 to +40	0.2928*** (17.96)	87.1*** (13.40)	326
-1 to +1	0.1683*** (16.77)	87.7*** (13.62)	326
0	0.1350*** (15.48)	83.1*** (11.96)	326

<sup>a</sup> Targets are 326 UK firms subject to takeover bids during 1987–1993. CAFRs are the sum of the AFRs over months 0, the bid announcement month, to three months thereafter. AFR is the excess of the actual forecast revision and the expected revision allowing for optimism bias and serial correlation in forecast revisions (see Section 4 in the text). BHAR is the excess of the firm's buy-and-hold returns over the buy-and-hold returns on a matching size quintile portfolio over days -20 to +40 where the bid announcement is on day 0. Significance test statistics are given in parentheses. Percentage positive revisions are tested using the binomial test against the null proportion of 50%.

\* Mean significance at 10% levels, one tail test.

\*\* Mean significance at 5%, one tail test.

\*\*\* Mean significance at 1%, one tail test.

Share Index PER was about 26 in June 1999 and 25 in September 2000). Thus, earnings forecast revisions are of an economically material magnitude.

Tables 1 and 2 also report the buy-and-hold abnormal stock returns (BHARs). Consistent with previous literature, target shareholders make

Table 2

AFRs, abnormal forecast revision, of earnings with following year (FY2) earnings forecasts and BHARs for targets<sup>a</sup>

*Panel A: Earnings forecast revisions*

Month relative to event month	Raw forecast revisions	Percentage positive	Abnormal forecast revision	Percentage positive	No. of obs.
-3	-0.0029** (-1.74)	18.8*** (-5.75)	0.0001 (0.03)	28.2*** (-4.01)	85
-2	-0.0043*** (-2.44)	23.3*** (-5.42)	-0.0023** (-1.66)	35.9*** (-2.86)	103
-1	-0.0023** (-2.26)	24.8*** (-5.55)	0.0007 (0.52)	43.0* (-1.55)	121
0	-0.0048*** (-3.35)	28.9*** (-5.04)	-0.0024* (-1.62)	49.3 (-0.17)	142
+1	-0.0023** (-1.94)	26.8*** (-5.45)	0.0021** (2.78)	51.4 (0.34)	138
+2	-0.0005 (-0.76)	33.3*** (-3.83)	0.0027*** (3.13)	60.6*** (2.44)	132
+3	0.0007* (1.29)	34.9*** (-3.39)	0.0029*** (2.87)	61.9*** (2.67)	126
Cumulative (0 to +3)	-0.0059*** (-2.97)	40.1*** (-2.35)	0.0047*** (2.49)	55.6* (1.34)	142

*Panel B: Buy-and-hold abnormal returns*

Event window	Buy-and-hold returns	Percentage positive	
-20 to +40	0.2955*** (11.94)	85.9*** (8.56)	142
-1 to +1	0.1792*** (11.47)	90.8*** (9.68)	142
0	0.1389*** (10.76)	90.1*** (9.57)	142

<sup>a</sup> Targets are 142 UK firms subject to takeover bids during 1987–1993. CAFRs of earnings are the sum of the AFRs over months 0, the bid announcement month, to three months thereafter. AFR is the excess of the actual forecast revision and the expected revision allowing for optimism bias and serial correlation in forecast revisions (see Section 4 in the text). BHAR is the excess of the firm's buy-and-hold returns over the buy-and-hold returns on a matching size quintile portfolio over days -20 to +40 where the bid announcement is on day 0. Significance test statistics are given in parentheses. Percentage positive revisions are tested using the binomial test against the null proportion of 50%.

\* Mean significance at 10% level, one tail test.

\*\* Mean significance at 5% level, one tail test.

\*\*\* Mean significance at 1% level, one tail test.

significant wealth gains. On the announcement day, BHAR is about 14%. Over the three-day period, day -1 to +1, BHAR is about 17–18% whereas over the longer interval, days -20 to +40, target shareholders make about 30%. Thus, takeover announcements are value enhancing to target shareholders.



#### 5.4. *Earnings forecast revisions, optimism bias and analysts' self-selection*

McNichols and O'Brien (1997) have suggested that the widely documented optimism bias in analysts' earnings forecasts may be due to pessimistic analysts opting out of forecasting, leaving a truncated distribution of forecasts with an upwardly biased mean. To examine whether the impact of takeover announcements on earnings forecasts is masked by the changing number of forecasting analysts, we partition the sample into three groups of targets with the number of analysts decreasing, unchanged or increasing from the non-bid to the observation period.<sup>22</sup> With FY1 forecasts, CAFRs over months 0 to +3 are not significantly different across the three groups whereas with FY2 the largest CAFR is associated with the group of no change in analysts following. The latter is inconsistent with self-selection bias. Thus there is little evidence of self-selection bias.<sup>23</sup>

#### 5.5. *Analysts' earnings forecast revisions and abnormal returns*

We examine the relation between analysts' abnormal earnings forecast revisions (AFRs) and buy-and-hold abnormal returns (BHARs) to target shareholders and test our four hypotheses with correlation analysis.<sup>24</sup> We partition our sample into different types of bid, bid outcome and method of payment. Table 3 reports the Pearson and Spearman correlations for successful, failed, friendly, hostile, successful hostile and failed hostile bids with BHARs estimated over days –20 to +40. We report both CAFR over months 0 to +3 and AFRs over individual months during that period to allow for any uncertainty over the precise timing of the impact of the takeover announcement on analysts revising their forecasts.

For the successful group, the association between earnings forecast revision and abnormal returns is generally insignificant or in some cases perversely negative at least with the Pearson coefficients. With the Spearman rank correlation that is less susceptible to outliers none of the correlations is significant. On the other hand, for the Failed group, both sets of correlation coefficients are stronger, more consistent and in all but one case (involving AFR2 which is insignificant) positive.

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<sup>22</sup> We compare the maximum number of analysts following each sample firm during the observation period months –3 to +4 to the maximum number of analysts during the non-observation period, i.e., months –17 to –4 and +5 to +17.

<sup>23</sup> The results, available from the first author, are not reported with a view to brevity.

<sup>24</sup> It may be argued that abnormal returns and earnings forecast revisions are to some extent mutually determined and thus endogenous to the information released. Thus a regression of returns on earnings forecast revisions may be inappropriate. Hence we perform a correlation analysis. We thank one of the anonymous referees for suggesting this alternative approach.

Table 3  
Correlation of abnormal stock returns to target shareholders and abnormal earnings forecast revisions by analysts (by bid outcome and mood)<sup>a</sup>

Sample (size)	Pearson correlation (level of significance)					Spearman rank correlation (level of significance)				
	CAFR03	AFR0	AFR1	AFR2	AFR3	CAFR03	AFR0	AFR1	AFR2	AFR3
<i>Panel A: Current year (FY1) earnings</i>										
Successful (276)	-0.04	0.08	-0.05	-0.15 (0.01)	0.06	-0.01	0.03	-0.02	-0.03	0.10
Failed (50)	0.29 (0.02)	0.13	0.30 (0.02)	-0.04 (0.01)	0.07	0.33 (0.01)	0.19	0.24	0.17	0.18
Friendly (237)	-0.02	0.12 (0.03)	-0.01	-0.18 (0.01)	0.05	0.01	0.07	-0.01	-0.07	0.06
Hostile (89)	0.08	-0.09	0.10	0.03	0.11	0.08	-0.02	0.04	0.01	0.19 (0.04)
Successful Hostile (49)	-0.06	-0.17	-0.06	0.00	0.07	0.05	-0.03	-0.14	0.13	0.11
Failed Hostile (40)	0.27 (0.05)	0.12	0.28 (0.05)	0.08	0.15	0.36 (0.01)	0.12	0.22 (0.10)	0.14	0.26 (0.06)
<i>Panel B: Next year (FY2) earnings</i>										
Successful (111)	-0.10	0.23 (0.01)	-0.16 (0.04)	-0.23 (0.01)	-0.27 (0.00)	-0.03	-0.00	-0.10	-0.01	-0.03
Failed (31)	0.22	0.25 (0.10)	0.23	-0.17 (0.01)	0.46 (0.01)	0.27 (0.09)	0.15	0.30 (0.07)	-0.03	0.58 (0.00)
Friendly (87)	-0.04	0.30 (0.00)	-0.17 (0.06)	-0.28 (0.01)	-0.30 (0.00)	0.01	0.07	-0.15 (0.08)	-0.09	-0.05
Hostile (55)	0.01	-0.10	0.13	-0.00	0.08	-0.10	-0.23 (0.05)	0.02	-0.03	0.16
Successful Hostile (29)	0.17	-0.03	0.20	0.28 (0.08)	0.11	0.04	-0.35 (0.03)	-0.00	0.18	0.06
Failed Hostile (26)	0.05	-0.12	0.29 (0.08)	-0.05	0.32 (0.07)	0.12	-0.01	0.33 (0.05)	0.04	0.47 (0.01)

<sup>a</sup> Both Pearson and Spearman rank correlations between BHARs and analysts' abnormal earnings forecast revisions (AFRs) are shown. CAFR03 is cumulative abnormal earnings forecast revision over months 0 (the announcement month) to month +3. BHARs are estimated over the event window days -20 to +40 around bid announcement day 0. 'Successful', 'Failed', 'Friendly', 'Hostile', 'Successful Hostile' and 'Failed Hostile' refer to subsamples of successful, failed, friendly, hostile, successful hostile and unsuccessful hostile bids. Level of significance at 10% or lower is shown in parentheses (one tail test).

With FY1 forecasts the rank correlation is 0.33 (significant at 1%) between CAFR03 and abnormal returns. The rank correlation between individual month's AFRs and BHARs are all positive though insignificant. The Pearson correlation is 0.29 (significant at 2%) for CAFR03 and 0.30 (significant at 2%) for AFR1. With FY2 earnings, the rank correlation is 0.27 (significant at 9%), 0.30 (significant at 7%) and 0.58 (significant at better than 1%) for CAFR03, AFR1 and AFR3, respectively. The Pearson correlations are 0.25 (significant at 10%) for AFR0 and 0.46 (significant at 1%) for AFR3. For the other months except AFR2 both correlations are positive though not significant.

The more positive and more strongly significant correlations between target abnormal returns and analysts' earnings forecast revisions for failed than for successful bids lend support to our hypothesis H1 and are consistent with rational expectations.<sup>25</sup>

Hypothesis H2 that correlations would be insignificant for friendly bids and significantly positive for hostile bids is not clearly supported. For friendly bids in Table 3 none of the rank correlations is significant with FY1 or with FY2 except for AFR1 that has a weakly significant negative correlation of 0.15. The Pearson correlations also present a mixed picture with one significant positive correlation for AFR0 and some significant negative correlations in months 1–3. For hostile bids, only the rank correlation, 0.19, for AFR3 is significant at 4%. None of the other correlations with FY1 is significant. With FY2 all correlations except one are insignificant and the correlation between AFR0 and BHAR is significant but negative. Overall, correlations for CAFR03 are insignificant for both samples.<sup>26</sup>

Comparing successful hostile and failed hostile bids we find the correlations for the former sample are insignificant with the FY1 forecasts. With FY2, there is a significantly negative correlation for AFR0. The only positive correlation is in the case of AFR2 with FY2 forecasts but it is weakly significant at 8%. Thus there is no strong or systematic relation between earnings forecast revisions and abnormal returns. In striking contrast, for failed hostile bids the correlations for CAFR03 are positive and highly significant with FY1. Rank correlations in months 1 and 3 are also significant and positive while the Pearson

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<sup>25</sup> Some of the value gains for targets in failed bids may reflect anticipated future bids. Chatterjee (1992), however, provides evidence that new information about potential restructuring of targets dominates synergy in targets of failed bids that remain independent for five years. For our samples, we find no significant difference in CAFRs for failed targets subsequently taken over within two years and those that remain independent. Thus for our sample at least earnings forecast revisions for failed targets seem to be driven by the expected restructuring of those targets rather than anticipation of future bids. We thank one of the referees for suggesting this line of investigation. Detailed results are available from the first author.

<sup>26</sup> Mean CAFRs for the hostile and friendly samples are not significantly different from each other.

correlation is significantly positive in month 1. Results with FY2 are broadly consistent with the FY1 but correlations are weaker. Table 3 thus provides significant support for hypothesis H3 that the relation between bid premia and earnings expectation changes will be more strongly and positively correlated in failed hostile bids than in successful hostile bids.<sup>27</sup>

Overall, we find, as stated by hypothesis H1 that bid premia and earnings expectation changes are more strongly related in failed bids than in successful bids. We also find, consistent with hypothesis H3, that bid premia and earnings expectation changes are more strongly and positively related in failed hostile bids than in successful hostile bids. These results are weaker with FY2 earnings than with FY1 earnings although the smaller samples in the former case may account for some of the weakness. They are also weaker with Pearson than with rank correlations possibly due to the impact of outliers on the former measure. Finally, the unreported results based on BHARs over a shorter window of day  $-1$  to  $+1$  are similar to those based on the longer window reported in Table 3. Thus our results are robust to the estimation period for returns.

These results confirm that earnings forecast revisions made by analysts during takeover bids are associated with the valuation of targets at least in the case of failed and failed hostile bids. They are consistent with new information released by bids being a source of value creation for target firms. They lend support to the view that analysts' earnings forecast revisions enable target shareholders to form rational expectations concerning the true value of their companies and enhance their bargaining power vis-à-vis the bidders, especially the allocational or hostile bidders. This enhanced power, as suggested by the rational expectations model, enables target shareholders to demand high bid premia thereby increasing the chances of bid failure.

As noted earlier, Bradley et al. (1983) and Schwert (1996) report that value gains to targets in failed bids are not maintained in the post-bid period of a year or longer and argue that this value loss is inconsistent with new information about profitable target restructuring. However, for the UK, Holl and Kyriazis (1997) report that abnormal returns to target shareholders are not eroded in the period 3–24 months following bid failure perhaps due to expectations of target restructuring. While we do not investigate the long term shareholder returns to targets, our result that there is a significant association between new information about increased future earnings from potential target restructuring and bid period value gains to targets, in failed and failed hostile bids, is consistent with the value maintenance reported by Holl and Kyriazis (1997).

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<sup>27</sup> Mean CAFR for the failed hostile group is significantly higher than for the successful hostile group with both FY1 and FY2 forecasts. See below for further discussion.

We also note that target management resistance does not reduce the future expected earnings of target firms compared to friendly targets. Indeed, analysts' earnings forecasts are revised more positively for failed hostile bids than for successful hostile bids or successful friendly bids. The mean CAFRs with FY1 (percentage of positive CAFRs) for the three groups are respectively 0.51% (68%), 0.45% (61%) and 0.50% (56%). With FY2 these are 0.85% (73%), 0.18% (48%) and 0.50% (54%). Resistance, even when leading to bid failure, appears consistent with managerial alignment to shareholders' interests. This contrasts with the neutral impact of resistance on future earnings reported by Brous and Kini (1993) and the negative impact observed by Pound (1988).

### *5.6. Information asymmetry, method of payment and bid premia*

Table 4 presents the correlations between analysts' earnings forecast revisions and target abnormal returns for three subsamples differentiated by the payment method – (pure) Cash, (pure) Equity and Mixed offers. For Equity offers, with FY1 earnings, correlations are significantly positive for CAFR03. Pearson correlations are also significantly positive for months 0–3. None of the correlations is significantly negative. On the other hand, for the Cash and Mixed offers, no clear or consistent relation between bid premia and earnings forecast revisions is revealed. None of the correlations for CAFR03 is significant except for Mixed offers, which has a significantly negative Pearson correlation with FY1 earnings. With FY2 earnings, however, Equity displays correlations little different from those for Cash and Mixed offers. The more ambiguous results with FY2 may partly be due to the smaller samples especially for Equity offers. Unreported results with BHARs over days –1 to +1 are similar.

Thus there is some, but limited, support for our information asymmetry-based hypothesis H4 that a stronger and more positive association will exist between bid premia and earnings expectations changes in equity than in cash offers.

## **6. Summary and conclusions**

In this paper we differentiate between alternative sources of value creation in takeovers: potential synergy and release of new information about target's future earnings arising from potential restructuring. We test the new information model by examining whether analysts revise their forecasts of the stand-alone earnings of target firms to reflect the scope for such restructuring and whether such revisions are significantly related to the bid premia to targets.

Table 4  
Correlation of abnormal stock returns to target shareholders and abnormal earnings forecast revisions by analysts (by method of payment)<sup>a</sup>

Sample (size)	Pearson correlation (level of significance)					Spearman rank correlation (level of significance)				
	CAFR-03	AFR0	AFR1	AFR2	AFR3	CAFR-03	AFR0	AFR1	AFR2	AFR3
<i>Panel A: Current year (FY1) earnings</i>										
Cash (144)	0.03	0.11 (0.10)	0.02	-0.04	-0.06	0.06	0.15 (0.04)	0.03	-0.05	0.08
Equity (46)	0.47 (0.00)	0.29 (0.03)	0.46 (0.00)	0.39 (0.01)	0.52 (0.00)	0.21 (0.08)	-0.03	0.19	0.05	0.08
Mixed (125)	-0.25 (0.00)	0.03	-0.15 (0.06)	-0.32 (0.00)	0.07	-0.10	-0.05	-0.06	-0.05	0.07
<i>Panel B: Next year (FY2) earnings</i>										
Cash (63)	0.10	0.34 (0.01)	-0.10	-0.16	-0.27 (0.02)	-0.03	0.08	-0.00	-0.04	-0.07
Equity (20)	0.01	0.15	0.13	-0.35 (0.08)	-0.18	-0.11	-0.19	-0.05	-0.14	-0.11
Mixed (55)	-0.12	0.05	-0.16	-0.16	-0.23 (0.06)	0.06	-0.11	-0.10	0.09	0.12

<sup>a</sup> Both Pearson and Spearman rank correlations between BHARs and analysts' abnormal earnings forecast revisions (AFRs) are shown. CAFR03 is cumulative abnormal earnings forecast revision over months 0 (the announcement month) to month +3. BHARs are estimated over the event window days -20 to +40 around bid announcement day 0. 'Cash', 'Equity' and 'Mixed' represent pure cash, pure equity and mixed security and cash offers. Level of significance at 10% or lower is shown in parentheses (one tail test).

The earnings considered are both current year and the following year earnings. Our results show that significantly positive earnings forecast revisions follow takeover announcements. Analysts revise their current year earnings forecasts upwards by a significant 0.5% (EPS forecast revision of about 10%) over the period, announcement month to three months after. They revise the following year forecasts by a significant 0.5%. (EPS forecast revision of 10%.) This finding provides significant support for the new information model.

The new information incorporated in analysts' forecast revisions potentially enables target shareholders to form rational expectations about the post-acquisition value of their firms, enhances their bargaining power against the bidders, increases the bid premia and raises the probability of bid failure. Our results support two of the three hypotheses derived from rational expectations. In particular, the association between bid premia and analysts' earnings forecast revisions is much stronger and more positive for failed hostile bids than for successful hostile and friendly bids.

Our study demonstrates that analysts' earnings forecasts are useful in testing takeover models based on rational expectations and therefore could be

employed in tests of related models, e.g., Burkart et al. (1998) and Hirshleifer and Titman (1990).

We find that fierce target management resistance does not reduce the expected earnings of the targets. The earnings forecast revisions are more positive in failed hostile bids than in successful hostile and successful friendly bids. This result contrasts with the Brous and Kini finding, with US data, of a neutral effect of resistance.

In our study, abnormal earnings forecast revisions have only a modest association with bid premia especially in friendly bids. This indicates that bid premia may capture expectations of substantial added value due to synergy in addition to new information. Thus synergy cannot be ruled out as a source of value in many takeovers. But this paper provides evidence that new information is a significant, if not the dominant, source of value. Future research may use analysts' earnings forecasts to control for new information while assessing the role of synergy as a source of value. Thus the respective contributions of new information and synergy may be more precisely measured. Future research may also consider whether, for those bids in which analysts' earnings forecast revisions provide significant new information about potential target restructuring, such restructuring does take place and it is value creating.

### **Acknowledgements**

This research was partly funded by a grant from the Institute of Chartered Accountants in England and Wales and partly by INQUIRE, UK. The authors thank the Institute and INQUIRE for the grant. The authors gratefully acknowledge the contribution of I/B/E/S Inc. for providing earnings per share forecast data, available through the Institutional Brokers Estimate System. This data has been provided as part of a broad academic programme to encourage earnings expectations research. We also thank Jayant Kale, Omesh Kini and participants at the European Financial Management Association conference in Innsbruck (1996), INQUIRE UK conference at Bath (1996), Financial Management Association conference in Honolulu (1997) for their comments on earlier versions of the paper. Ayo Salami's contribution was made prior to his joining Nomura International. The content of this paper no way reflects the views of Nomura.

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