THE LONG-RUN PERFORMANCE OF HOSTILE TAKEOVERS: U.K. EVIDENCE

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Abstract
This paper examines the long-run pre- and post-takeover performance of hostile takeovers in the U.K. from 1985-96. Prior to takeover, targets in hostile takeovers experience a significant deterioration in profit returns, and significantly negative share returns. However, there is little evidence that profit levels are lower than those of non-merging firms. Bidders in hostile takeovers are not superior performers in terms of profit levels, although share returns are significantly high prior to takeover. However, in the post-takeover period hostile takeovers show significant improvements in profit returns, which are associated with significant asset disposals. In contrast, friendly takeovers do not improve profit returns and result in significantly negative long-run share returns. We find no evidence of an inverse relation between the performance improvement in hostile takeovers and the pre-takeover performance of the target. We interpret the results to indicate that although hostile takeovers improve performance, there is little evidence that they play an important role in reversing the nonvalue maximizing behaviour of target companies.

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Introduction

In the capital markets of the U.S. and the U.K., hostile takeovers are considered to perform an important role; that of reversing the nonvalue maximizing strategies of underperforming companies. Manne (1965) argues that by taking over such companies, acquiring firms can replace the inefficient management and their policies, improve performance and realize a capital gain on their investment. Morck, Shleifer and Vishny (1988) argue that takeovers driven by such disciplinary motives are more likely to be hostile in character, whilst takeovers undertaken to achieve synergies between bidder and target firms are more likely to be friendly in character. Whether hostile takeovers actually perform this disciplinary function is a controversial issue, and the subject of investigation in this paper. In particular, we examine three generally accepted conditions of the disciplinary hypothesis of takeovers.

Brealy and Myers (1991, p. 945) argue that, "there are always firms with unexploited opportunities to cut costs and increase sales and earnings. Such firms are natural candidates for acquisition by other firms with better management. In some instances 'better management' may simply mean the determination to force painful cuts or realign the company's operations…. If this motive is important, one would expect that firms that perform poorly tend to be targets for acquisition." Target underperformance can be an industry-wide phenomenon as well as being firm-specific. Jensen (1986) argues that general shocks can lead to underperformance in a whole industry, because incumbent managers as a whole find it difficult to adapt to a new environment. Studies for both the U.S. and the U.K. have failed to find clear evidence of firm-specific target underperformance in hostile takeovers[1], although there is evidence that hostile takeovers take place in poorly performing industries [2].

If the disciplinary motive were important in hostile takeovers, one would also expect to observe an improvement in the performance of the combined firms. Although there is evidence that the anticipated gains in hostile takeovers are large and significantly larger than in friendly takeovers[3], studies for the U.S. have not found that hostile takeovers improve the performance of the combined enterprise[4]. Any improvement may be accompanied by significant changes in the policies of target management. The change in policies could take the form of disposals of poorly performing assets (Jensen, 1986), reductions in the number of employees (Shleifer and Summers, 1988), and long term investments (Stein, 1989). There is strong evidence of asset restructuring following hostile takeovers[5, 6]. However there is little evidence of employee appropriation or reductions in capital expenditure (Bhagat, Shleifer and Vishny, 1989).

While all firms, even those with good management, can theoretically be improved by better management, the potential for improvement is clearly greater in firms that are performing poorly. Therefore, another conjecture of the disciplinary hypothesis is that "the value of wrestling control of a firm from incumbent management is inversely proportional to the quality of that management. In general, the value of control will be much greater for a poorly managed firm that operates at below optimum capacity than for a well managed firm" (Damodaran, 1997, p. 687). The same prediction is not made for takeovers carried out for synergy motives. Healy, Palepu and Ruback (1997) argue that the relative post-takeover performance of hostile and friendly takeovers depend on the value of the target's strategy and management before takeover. "If the pre-takeover strategy or management was ineffective, a hostile takeover that replaced management and abandoned a failed strategy would be superior to a friendly transaction that did not make changes. However, if the pre-takeover strategy was effective, the management change, organizational disruption, and change in direction associated with a

hostile takeover would reduce performance after takeover" (p. 50). There is some evidence for the U.S. to suggest that this is indeed the case [7]. This theory predicts that the performance improvement in hostile takeovers may be expected to be greater, the worse the performance of the target.

The objective of this study is to examine these three hypotheses by studying the long run pre- and post-takeover performance of a comprehensive sample of hostile takeovers involving U.K. firms covering an 11-year period from 1985-1996. Relative to the existing literature, our contributions include (1) the examination of both share and profit returns for the same sample of takeovers over the long run pre- and post-takeover periods, and (2) an examination of the effect of the pre-takeover target performance on long run post-takeover performance.

We find clear evidence that targets in hostile takeovers underperform in terms of share returns in the one-year prior to the takeover. However, there is only weak evidence that targets experience low levels of profitability. We find that bidders in both hostile and friendly takeovers perform significantly well in terms of share returns in the pre-takeover period. There is no evidence that the pre-takeover performance of bidders in hostile takeovers is superior to that of bidders in friendly takeovers. In the post-takeover period, we find strong evidence that hostile takeovers result in improved profitability in comparison with nonmerging firms. These increases arise from improvements in operating profit margins, and are associated with significant asset disposals. In contrast, friendly takeovers do not result in improved profitability. Announcement period share returns are significantly high in both hostile and friendly takeovers, but in friendly takeovers they are followed by significantly negative share returns in the post-takeover period. We find no evidence of an inverse negative relation between the performance of hostile takeovers and the pre-takeover performance of the target. Overall, we consider this

evidence to provide little support for the view that hostile takeovers perform an important disciplinary function in the U.K. stock market.

Section 2 describes the data and the methodology. Section 3 reports results on the pre-takeover performance of targets and bidders. Section 4 provides evidence on the post-takeover performance of hostile and friendly takeovers. Section 5 examines the relation between the post-takeover performance of takeovers and the pre-takeover performance of targets. Section 6 concludes.

2. Data and Methodology

2.1. Data

The U.K. and U.S. are to be distinguished from other industrial countries by their comparatively high level of takeover activity, and the presence of active markets for corporate control, which result in a high level of hostile takeover activity. Fig. 1 shows the number of takeover bids for U.K. listed firms from 1970 to 1998. The mid-1980s included peak rates of activity comparable with those of the historically unprecedented levels of the early 1970s. Takeover activity decreased substantially in the early 1990s, but in the late 1990s increased to levels higher than those of the 1980s. This overall pattern is similar to that observed in the U.S. (Schwert, 2000).

Fig. 1 also shows the number and proportion of hostile takeover bids in the U.K. A hostile bid is defined as one in which the target board's initial reaction is to recommend target shareholders to reject the offer. Hostile takeover bids account for 23% of all takeover bids over the entire period[8]. This proportion is very similar to that of the U.S. Using the same definition of hostility, Schwert (2000) reports that over the period 1980-94, 21% of all offers were hostile. In contrast to the U.S. and the U.K., in most of

continental Europe there is little or no market for corporate control (see, e.g., Franks and Mayer, 1996). Therefore the U.K. is one of the few countries other than the U.S. where hostile takeovers can be studied. Fig. 1 shows that the 1980s witnessed an increase in both the number and proportion of hostile takeover bids. In the 1990s both the number and proportion of hostile takeovers decreased substantially. From 1985-89, the proportion of hostile bids was 27.3%, whilst from 1990-94 the proportion was 22.5%. This is consistent with the decline observed in the U.S. by Schwert (2000), and casts some doubt on the interpretation that the U.S. decline results from the introduction of antitakeover devices, such as poison pills and state antitakeover laws, since no comparable developments took place in the U.K. [9].

We examine a comprehensive sample of hostile takeovers of U.K. public companies by U.K. public companies, completed between January 1985 and June 1996. We compare the performance of the sample companies involved in hostile takeovers with a matched sample of friendly takeovers, and with a matched sample of non-merging control firms. The sample data is drawn from Acquisitions Monthly, which reports a total of 320 hostile takeover bids for U.K. listed companies over this time period. In selecting a matched sample of friendly takeovers to compare with hostile takeovers, we consider it important to select friendly takeovers from the same industry as those of hostile takeovers. As pointed out above, evidence shows that hostile takeover bids take place in poorly performing industries (Morck, Shleifer, and Vishny, 1988). Therefore, if the performance effects of takeover differ by industry (even after controlling for industry performance), bias may be introduced into the analysis. To control for this, we match each of the 320 hostile takeover bids with a friendly takeover bid by the industry (2 digit SIC) of the target, and the year of the takeover bid. Friendly takeover bids are defined as where the initial reaction of target management is to recommend acceptance of the offer to target shareholders. We exclude takeover bids that do not result in

a takeover, which is defined as occurring when the bidder owns less than 50% of the targets shares before the takeover bid, and increases its ownership to at least 50% as a result of the bid. We do not consider takeovers involving financial and property companies because they are subject to special accounting requirements, making them difficult to compare with other companies. We exclude takeovers if both bidder and target accounting data is not held on the Datastream Database for a minimum period of two years prior to the takeover. This procedure results in a sample of 64 hostile takeovers and 139 friendly takeovers. The larger number of friendly takeovers reflects the relatively high number of uncompleted hostile takeovers. As expected from Fig.1, Panel A of Table 1 shows that the sample of hostile and friendly takeovers is more heavily concentrated in the 1980s than the 1990s. Of the 64 hostile takeovers, 42 take place between 1985-89, whilst 22 take place between 1990-96. Similarly, of the 139 friendly takeovers, 96 take place between 1985-89, 43 between 1990-96.

2.2. Methodology

2.2.1. Accounting study methodology

For the accounting study we examine the pre- and post-takeover profit returns of bidders and targets, relative to control firms matched on industry and size. Barber and Lyon (1996) show that profit returns can be determined by industry, or firm specific factors such as size, and there is reason to believe that companies involved in hostile and friendly takeovers are not equally distributed across these different factors. In particular, hostile takeovers could take place in poorly performing industries (see, e.g., Morck, Shleifer, and Vishny 1988). Secondly, targets of hostile takeovers tend to be large in size (see, e.g., Schwert, 2000). Panel B of Table 1 shows the size distribution of sample firms, relative to all firms listed on the U.K. stock market. Bidders in both hostile and friendly takeovers are relatively large, with over

50% being concentrated in the largest two size deciles. However, bidders in hostile takeovers are significantly larger than bidders in friendly takeovers. Similarly, targets in hostile takeovers are relatively large and significantly larger than targets in friendly takeovers, which are distributed evenly across the different size deciles. Sample firm profit returns are therefore measured relative to control firms matched on industry and size, based on the methodology suggested by Barber and Lyon (1996). The control firms are selected from firms listed on Datastream, which neither made, nor received, a takeover offer for a public company during 1985-96[10].

The profit measure we employ consists of operating profit plus other income and extraordinary items before interest paid and taxation. Other income is included to capture profits from joint ventures, which, if excluded, could cause an upward bias when what was previously associate income is consolidated in post-takeover operating profit. Extraordinary items are added to profits because in the U.K. over this period, acquirers could exclude integration costs from profit by classifying them as extraordinary items. We scale the profit measure by the average of beginning- and ending-period book value of assets. Assets are defined as the sum of ordinary shareholders funds, long and short term borrowing, and preference stock. We use book rather than market value of assets because we find strong evidence that investors appear to lower their assessment of friendly takeovers in the post-takeover period. In Section 5.3 we show that friendly takeovers result in significantly negative abnormal returns in three of the four post-takeover years. Healy, Palepu and Ruback (1992) show that this decline in market value could lead to an increase in profit returns, even if profits are held constant[11].

We focus our analysis on the three before the takeover (years – 3 to – 1) and three years following the takeover (years 1 to 3)[12]. Since nearly all bidders use the acquisition accounting method, we

exclude year 0, the year of the takeover, from the analysis because in this year the two firms are consolidated for financial reporting purposes only from the takeover completion date. Due to the skewness of accounting ratios, we report median values and employ the Wilcoxon signed-rank *z*-statistic to test for statistical significance[13].

2.2.2. Event study methodology

For the event study, we calculate buy and hold share returns for the pre-takeover period, the announcement period, and the post-takeover period relative to control firms matched on size and book-to-market. The underlying parameter of interest in this study is the long-run performance of sample firms, and we therefore employ buy and hold returns rather than cumulative average returns (see e.g., Barber and Lyon, 1997; Kothari and Warner, 1997). Studies such as Fama and French (1992) show that the cross sectional long-run returns of securities are better explained by size and book-to-market than beta. As with size, the book-to-market result is of particular importance in the context of this study, since the book-to-market of bidders and targets could differ from other firms. For example, Schwert (2000) shows that targets in hostile bids tend to have higher than average book-to-market, whilst Mitchell and Stafford (2000) show that bidders tend to be below average book-to-market. Panel C in Table 1 shows the distribution of book-to-market ratios of bidders and targets, relative to all firms listed on the U.K. stock market. Bidders in both hostile and friendly takeovers tend to have medium to low book-to-market ratios, with 75% concentrated in the smallest six deciles, and do not differ significantly from one another. Targets in hostile takeovers have significantly higher book-to-market than targets in friendly takeovers. Sample firm share returns are therefore measured relative to control firms matched on size and book-to-market, based on the methodology suggested by Barber and Lyon

(1996)[14]. We adopt the control firm approach because it avoids the skewness and rebalancing biases inherent in a reference portfolio approach although it is nevertheless susceptible to the new listing bias described by Barber and Lyon (1997). As with the accounting ratios, we report the median share returns and the Wilcoxon signed-ranks *z*-statistic[15].

Panel D of Table 1 reports the size of targets relative to bidders prior to the takeover. The average ratio in hostile takeovers is 0.53, whilst the median is 0.24. Therefore our sample of hostile takeovers represent significant investments for the bidders involved. The ratio is somewhat lower in friendly takeovers, however the difference between friendly and hostile takeovers is not significant.

3. Pre-takeover performance

If hostile takeovers were carried out for disciplinary motives, then we may expect to observe certain pre-takeover performance characteristics of target and bidder companies. Specifically, we may expect to observe target underperformance, relative to non-targets, friendly targets, and to bidding companies. In Section 3.1 we consider the pre-takeover profit returns of target and bidder companies in hostile and friendly takeovers, whilst in Section 3.2 we consider pre-takeover share returns.

3.1. Pre-takeover profit performance

Table 2 reports the pre-takeover abnormal profit return on assets for targets and bidders in hostile and friendly takeovers, calculated with respect to non-merging control firms matched on industry and size. We report the median profit returns for each year – 3, – 2 and – 1, for the median annual profit return from – 3 to – 1, and for the change in profits from – 2 to –1.

Panel A shows that the median abnormal profit return over the three pre-takeover years is insignificantly positive for targets in hostile takeovers. There is therefore no sign of long run target underperformance in hostile takeovers. The profit returns of targets in hostile takeovers deteriorate significantly in the year prior to takeover, changing from 3.6% in year – 2 to – 4.6% in year -1. This change is statistically significant at the 1% level. The median abnormal return in year – 1 is – 4.3%, which is not statistically significant (Wilcoxon Z = – 1.49, t-statistic = – 1.63). The abnormal profit returns for targets in friendly takeovers are reported in Column 3 of Panel A. These returns are insignificantly different from zero for each of the time periods considered, and there is no evidence of a deterioration in profit returns as witnessed in hostile takeovers. Column 4 reports the comparison of abnormal profits for targets in hostile and friendly takeovers. There is little evidence of significant differences in abnormal profit levels, although the difference for year –1 (– 4.3% versus 1.0%) while insignificant using the Wilcoxon test, is significant using a t-test at the 10% level (t-statistic = – 1.74). However, the large negative change in profits from – 2 to – 1 experienced by targets in hostile takeovers is significantly greater than that experienced by targets in friendly takeovers. It appears that, although targets in hostile takeovers are underperforming compared to their long run performance, there is no evidence to suggest that they are significantly underperforming compared to non-targets or targets in friendly takeovers.

If hostile takeovers are carried out for disciplinary motives, then we could expect bidders in hostile takeovers to exhibit above average performance. Panel B of Table 2 reports the pre-takeover profit returns of bidders. There is no evidence that bidders in hostile takeovers experience higher pre-takeover profits than non-merging firms. The median annual profit returns for years –3 to –1 earned by bidders in hostile takeovers do not differ significantly from those of control firms. Although the difference is large and

positive in year – 1 (3.6%), it is not statistically significant. There is no evidence that bidders in friendly takeovers experience significantly positive profits over the long run pre-takeover period. However, there is some evidence of positive short term abnormal profits. In year –1, these bidders experience a positive change which is significant at the 5% level, and positive abnormal profits which are significant at the 10% level. We compare the abnormal profit returns of bidders in hostile and friendly takeovers but find no significant differences. In sum, there is little evidence that bidders in hostile takeovers experience higher pre-takeover profit returns than either control firms or bidders in friendly takeovers.

Although there is little evidence in hostile takeovers of target underperformance relative to non-merging firms, perhaps an equally relevant comparison is that of targets with their bidders. If hostile takeovers are carried out for disciplinary motives, then we may expect bidders to earn higher profit returns than their targets, after controlling for size and industry differences. Panel C of Table 2 reports the median difference between the abnormal profit returns of bidders and targets. There is no significant difference in the median unabnormal returns over years –3 to –1 of bidders and targets in either hostile or friendly takeovers. However, the difference in year – 1 is significant at the 5% level for hostile takeovers but not friendly takeovers. The same is the case for the change in profits from year -2 to –1. Therefore, it appears that targets in hostile takeovers are performing significantly worse than their acquirers in the very short run period prior to takeover. Column 4 in Table 2 compares these differences between hostile and friendly takeovers. There is no evidence that the difference between bidders and targets is significantly different between the two types of takeover.

3.2. Pre-takeover share price performance

Table 3 reports the pre-takeover buy and hold abnormal share returns for targets and bidders in hostile and friendly takeovers, calculated with respect to control firms matched on size and book-to-market. We report the returns for each year – 3, – 2 and – 1, and from – 3 to – 1. We find for the overall sample evidence of positive target share returns starting six months prior to the announcement date. This suggests that the market starts to anticipate the takeover at this date, and hence year – 1 is the six month period lasting from month – 12 to month – 7.

Panel A of Table 3 shows that targets in hostile takeovers experience insignificantly negative abnormal returns in years – 3 and – 2. However, in year – 1, the median abnormal return is – 4.83% and statistically significant at the 1% level. Similarly, the median abnormal return from year – 3 to – 1, is – 18.33%, which is significant at the 5% level. In contrast, targets in friendly takeovers experience abnormal returns that are insignificantly different from zero in the pre-takeover period. Column 4 reports the difference in abnormal returns of targets in hostile and friendly takeovers. There is no significant difference for years – 3 and – 2. However, in year – 1, the difference is significant at the 10% level. Therefore, there is strong evidence that the short run share price performance of targets in hostile takeovers is lower than that of control firms and weak evidence that it is lower than that of friendly targets.

Panel B shows that bidders in hostile takeovers earn significant abnormal returns in years – 3 and – 2, resulting in a median abnormal return from – 3 to – 1 of 19.7%, which is statistically significant at the 1% level. The abnormal returns of bidders in friendly takeovers are very similar to those in hostile takeovers, being significantly positive in years – 2 and – 1, and from – 3 to – 1. The differences in abnormal returns between bidders in hostile and friendly takeovers, shown in column 4, do not differ

significantly for any of the pre-takeover periods. Therefore, bidders in both hostile and friendly takeovers appear to perform equally well in terms of share returns prior to takeover. It appears that bidding companies are superior performers in terms of stock price performance.

Panel C reports the comparison of bidders with their targets in terms of abnormal returns. The strong performance of bidders in both hostile and friendly takeovers results in significant differences in both types of bid. In hostile takeovers the difference is significantly positive for the periods – 3, – 1, and from – 3 to – 1. In friendly takeovers, the difference is significantly positive for – 1 and from – 3 to – 1. The poorer performance of targets in hostile takeovers means that the difference in share returns between bidder and target is greater for hostile takeovers than it is for friendly takeovers. However, Column 4 shows that these differences are not statistically significant. Therefore, the abnormal share returns of bidders are significantly higher than those of targets in both hostile and friendly takeovers, although not significantly more so in hostile takeovers.

Since Morck, Shleifer and Vishny (1988) show that takeovers are aimed at poorly performing industries, it is possible that the results for targets are driven by industry factors. As a check on the robustness of the results, we calculate abnormal share returns using the industry- and size-matched non-merging control firms used for the abnormal profit calculations. We find that the results are qualitatively unchanged. Another potential source of mis-specification in long-run returns is cross-sectional dependence in sample observations (Brav, 1999). This problem is particularly relevant to this study, since Mitchell and Mulherin (1996) show that takeovers tend to cluster by both time and industry. To eliminate the problem of cross-sectional dependence, we employ a calendar-time portfolio approach as advocated by Barber, Lyon

and Tsai (1999). However, we find that the results using this technique are very similar to those above.

3.3. Summary of findings

To summarise, there is little evidence that targets of hostile takeovers have lower pre-takeover profitability than non-merging firms or targets in friendly takeovers. This conclusion is consistent with previous U.K. and U.S. studies. For example, Franks and Mayer (1996) find little evidence of target underperformance in hostile takeovers occurring in the U.K. between 1985-86. For the U.S., Morck, Shleifer and Vishny (1988), Martin and McConnell (1991), and Schwert (2000), also find little evidence of target underperformance prior to hostile takeover. However, we find strong evidence that hostile targets experience a deterioration in profit returns in the year prior to takeover. This deterioration in profits is accompanied by significantly negative share returns in the one year prior to takeover. Furthermore, these share returns are significantly lower than those experienced by targets in friendly takeovers. It appears that in hostile takeovers, targets are slightly above average performers experiencing a significant downturn. Therefore, the evidence is consistent with targets of hostile takeovers being taken over in an attempt to improve performance, and in this sense, our evidence may be considered as consistent with a disciplinary explanation of hostile takeovers.

We find little evidence that bidders in hostile takeovers are superior performers in terms of profitability, compared to either non-merging firms or bidders in friendly takeovers. Bidder pre-takeover performance is much stronger in terms of stock price performance than profitability. Bidders in both hostile and friendly takeovers experience significantly positive share returns prior to the takeover. There are no significant differences between bidders in hostile and friendly takeovers, in terms of either profitability or share returns.

There is evidence that the very short run profit performance of bidders is greater than targets in hostile takeovers. In terms of stock returns, bidder returns are significantly greater than those experienced by targets in both hostile and friendly takeovers. Therefore, in hostile takeovers, bidders perform significantly better than their targets in terms of both profit and share returns. However, there is no evidence that the difference between bidders and targets is significantly greater in hostile takeovers than it is in friendly takeovers.

We conclude that hostile takeovers involve the acquisition of average performing companies experiencing a significant decline in performance, by acquirers with strong stock price performance although not strong profitability. Alternatively, friendly takeovers involve the acquisition of average performing companies by well performing companies. This evidence is in one sense consistent with the disciplinary hypothesis that hostile takeovers are carried out to improve the performance of the target company. However, it is hard to argue on the evidence presented that hostile takeovers are carried out to reverse the non-value maximizing behavior of poorly performing companies.

4. Post-takeover performance

Section 4.1 examines the impact of hostile and friendly takeovers on post-takeover profit performance. Section 4.2 examines the impact of hostile and friendly takeovers on investment and operating characteristics. Section 4.3 examines the impact of hostile and friendly takeovers on post-takeover share price performance.

4.1. Post-takeover profit performance

To examine the effects of takeover, we aggregate performance data of the bidder and target firms before the takeover to obtain the pro forma pre-takeover performance of the combined firms. Comparing the post-takeover performance of the bidder with this pre-takeover benchmark provides a measure of the change in performance. To correct for the effects of size and industry, we calculate abnormal profit returns, which are differences between values for the combined firms and values for the weighted-average control firms. In the pre-takeover period the weights for the control firms are the relative asset size of bidders and targets estimated at the beginning of each year, whilst in the post-takeover period the weights are the relative asset sizes of bidders and targets in year -1.

Table 4 reports the median abnormal profit returns for hostile and friendly takeovers. Hostile takeovers do not have lower pre-takeover median profit returns than their control firms. There is no significant difference between hostile and friendly takeovers in terms of pre-takeover abnormal profit returns. Hostile takeovers have insignificantly higher profit returns than their control firms in the post-takeover period. The median annual return for the sample firms in the post-takeover period is 3.1%. Friendly takeovers have significantly higher profit returns than their control firms in year 1, yet significantly lower profit returns in year 3, and the annual median return for the three post-takeover years is – 0.6%. The Wilcoxon test for differences between pre- and post-takeover median values in hostile takeovers is significant at the 1% level. Alternatively, in friendly takeovers, the median annual post-takeover return is not significantly different from the pre-takeover median return. Therefore, in terms of abnormal profit returns, hostile takeovers significantly improve performance whereas friendly takeovers do not.

The proper post-takeover benchmark must take account of any above average high or low pre-takeover performance, otherwise some of the difference between pre- and post-takeover

performance could be due to mean reversions that have been documented in prior studies (see, e.g., Fama and French, 2000). We adopt the methodology employed by Healy, Palepu and Ruback (1992), where the effect of takeover is measured as the intercept of a cross sectional regression of post-takeover abnormal profit returns on the corresponding pre-takeover returns as follows;

$$PROFPOST = \alpha + \beta\, PROFPRE + \varepsilon_i \qquad (1)$$

where *PROFPOST* is the median annual abnormal profit return on assets for the combined firm from the post-takeover years and *PROFPRE* is the pre-takeover median for the same combined firm. Our measure of the effect of takeover on profit returns is the intercept α from Eq. (1). The slope coefficient β captures any systematic relation in profit returns between the pre and post-takeover years so that $\beta\, PROFPRE$ measures the effect of the pre-takeover performance on post-takeover returns. The intercept is therefore independent of pre-takeover returns.

Table 5 shows that for the sample of hostile takeovers, the estimate of β is 0.52, indicating that above average profit returns tend to persist over time. The estimate of α is 4.9%, which is statistically significant at the 1% level. This indicates that there is a 4.9% per year increase in post-takeover profit returns after pre-takeover performance is controlled for. Therefore, in hostile takeovers, there is a significant improvement in the combined firm's profit returns in the post-takeover period. For the sample of friendly takeovers, the estimate of β is 0.34, indicating a somewhat smaller persistence of profit returns over time compared to hostile takeovers. The estimate of α is an insignificantly negative 0.7%, indicating that friendly takeovers have an insignificant impact on profit returns. To test whether the impact of takeover on profit differs significantly between hostile and friendly takeovers, we estimate Eq. (1) for the sample of both hostile and friendly takeovers, and

include a dummy variable MOOD which equals one if the takeover is hostile, zero if friendly. Column 5 shows that the coefficient for MOOD is 5.2%, which is statistically significant at the 5% level. These results indicate that hostile takeovers have a significantly large positive effect on profit performance, and this effect is significantly greater than that observed in friendly takeovers.

We introduce additional independent variables into the regression to determine whether our results are sensitive to the inclusion of other factors that have been advanced as both important determinants of takeover performance, and associated with the mood of the takeover. PAYMENT is a dummy variable which equals one if the method of payment includes a 100% cash alternative, zero otherwise. Since cash bids have generally been shown in the literature to be associated with good performance (Loughran and Vijh, 1997), the significantly positive impact of hostility may not hold once we control for the method of payment. Morck, Shleifer and Vishny (1990) argue that managers can entrench themselves by carrying out diversifying takeovers, and show that such takeovers are value destructive. We therefore include a dummy variable, HORIZ, which equals one if the bidder and target are in the same two digit SIC, and zero otherwise. Rau and Vermaelen (1997) show that MTBV has a significantly negative effect on takeover performance, and we therefore include MTBV as a control variable. Since the relative size of target to bidder is relatively large in hostile takeovers, we include it (RELSIZE) as an explanatory variable, which measures the market valuation of the target compared to the bidder at the end of the financial year prior to takeover.

Regressions (2) and (4) in Table 5 report the effect of these variables on profitability in hostile and friendly takeovers separately. In hostile takeovers RELSIZE is significantly positive, whereas it is insignificantly negative in friendly takeovers. PAYMENT does not have a significant effect on profitability in

hostile acquisitions, although in friendly acquisitions it is significantly positive. Regression (6) pools the samples of hostile and friendly takeovers together. The results show that the MOOD coefficient is no longer statistically significant when the other variables are included. This is partly the result of the significantly positive correlation with cash. The PAYMENT coefficient is positive and statistically significant at the 5% level, consistent with Linn and Switzer (2001). The correlation between PAYMENT and MOOD is statistically significant and it is possible that the improvement in hostile acquisitions may be due to this correlation. We find that MTBV, HORIZONTAL and RELSIZE all have an insignificant impact on takeover profitability in the pooled sample.

We carry out diagnostic checking for the regressions in Table 5. We test for serial correlation using the Durbin-Watson statistic, and cannot reject at the 5% level the null hypothesis of no autocorrelation. Using Eigenvalues, we find no evidence of multicollinearity between our explanatory variables. However, using the Cook-Weisberg test for heteroscedasticity, we reject at the 1% level the null hypothesis that regressions (3) to (6) do not suffer from heteroscedasticity. Since the least squares estimates are inefficient and the estimates of variances are biased under heteroscedasticity, we investigate the problem further. We firstly examine whether the heteroscedasticity is caused by extreme observations, by excluding multivariate outliers according to the Hadi technique. This technique results in the exclusion of 3 friendly takeover observations. Their exclusion results in identical regression results, except that we cannot now reject the hypothesis of no heteroscedasticity at the 5% level. We conclude that the heteroscedasticity is caused by these extreme observations and that our results are robust upon their exclusion.

We conclude that hostile takeovers result in a significant improvement in profitability, whereas friendly takeovers do not. Hostile takeovers result in significantly higher profitability, but

this appears to be the result of a positive correlation with cash payment than hostility per se. When we control for the method of payment, hostility no longer has a significant impact on profitability.

4.2. Components of post-takeover profit returns

The profit improvement in hostile takeovers can arise from a variety of sources, as discussed in the introduction. These include improvements at the operating level, in the form of improvements in operating margins, or greater asset productivity. One of the ways in which operating margins can be increased is through cutting costs, one important component of which is labour costs. Shleifer and Summers (1988), argue that hostile takeovers can lower labour costs since they present the opportunity to renegotiate explicit and implicit labour contracts. Alternatively, profit increases could be achieved by selling off poorly performing assets, or by reducing inefficient investment. In this section, we provide evidence on which of these sources contribute to the profit increase in hostile takeovers.

The operating profit return on assets can be decomposed into profit margin on sales and asset turnover. The former measures the operating profit generated per unit of sales whilst the latter measures the sales generated from each unit of assets. Table 6 shows that the operating profit increase in hostile takeovers is attributable to an increase in operating margins rather than asset turnover. In years – 3 to – 1, the combined firms have abnormal median profit margins of – 0.1%, which increases to 0.3% in years 1 to 3. The intercept in the cross sectional regression is 2.1% and statistically significant. There is no evidence that hostile takeovers result in higher asset turnover. In contrast to hostile takeovers, friendly takeovers do not result in higher operating margins. The intercept in the cross sectional regression is – 0.2% and statistically insignificant. Panel C shows that the difference in the effect of

takeover on profit margins is significantly higher in hostile takeovers than in friendly takeovers. The evidence thus indicates that there is a significant improvement in profit margins following hostile takeovers, but not friendly takeovers.

To assess whether the profit margin improvements in hostile takeovers are the result of reductions in either the number of employees or their remuneration, Table 6 reports the employee growth rate and the average employment cost per employee. In hostile takeovers, the median growth rate in employees is 1.1% in years – 3 to – 1, and – 4.6% in years 1 to 3. The post-takeover employee growth rate is significantly lower than that of control firms. However, the intercept in the cross sectional regression is not statistically significant, suggesting that the effect of hostile takeovers on employee growth rates is not significant. The results for friendly takeovers are very similar[16]. This evidence is consistent with the evidence of Bhagat, Shleifer and Vishny (1990) who find that employment redundancies are not the dominant source of hostile takeover gains. There is no significant effect on the average employment cost per employee in either hostile or friendly takeovers. In hostile takeovers, the regression intercept indicates that post-takeover, employment costs fall by £68, which is statistically insignificant. Alternatively, in friendly takeovers, average employment costs rise by £264, which is also insignificant. This evidence suggests that labour cost reductions are unlikely to drive the profit improvements in hostile takeovers.

The operating margin improvements in hostile takeovers could be achieved by selling off poorly performing assets. We therefore examine cash proceeds from asset sales in the pre- and post-takeover years. Table 6 shows that the median cash proceeds from asset sales for the combined firms before and after hostile takeovers are 1.3% and 1.4% of total assets. Both of these rates are significantly higher than the rates for the control firms. Further, controlling for the level of pre-takeover asset disposals, there is an

increase of asset sales in the post-takeover period of 1.0%. Alternatively, there is no evidence of increased asset disposals following friendly takeovers. Panel C shows that the asset disposals following hostile takeovers are significantly higher than those in friendly takeovers[17].

Table 6 also reports the rate of capital expenditures to assets in the pre- and post-takeover years. The median capital expenditures as a percentage of assets in hostile takeovers is 7.1% in the pre-takeover period and 5.6% in the post-takeover period, neither of which are significantly different from those of nonmerging firms. The intercept in the cross sectional regression is not statistically significant, suggesting that the effect of hostile takeovers on capital expenditure is not significant. Similarly, in friendly takeovers the capital expenditures of the sample firms are no different from nonmerging firms in either the pre- or post-takeover period. There is no difference between hostile and friendly takeovers in terms of capital expenditure changes.

In summary, the improvement in profit returns in the three years following hostile takeovers arises from improved operating profit margins and not increased asset productivity. The improvement in margins does not come at the expense of employees, since there is no evidence of decreased labour costs or layoffs following hostile takeovers. Hostile takeovers do not result in a reduction in capital expenditures. However, there is evidence of increased asset disposals following hostile takeovers.

4.3. Post-takeover share price performance

This section considers the effect of hostile and friendly takeovers on the shareholder wealth of the bidder and target firms. We estimate buy and hold share returns over the announcement period and the four year period following the completion date, for both sample firms and size- and book-to-market matched control firms.

Panel A of Table 7 shows that the median announcement abnormal return earned by targets in hostile takeovers is 41.9%, which is significantly higher than the median abnormal return of 28.2% earned by targets in friendly takeovers. The median abnormal return in hostile takeovers is an insignificant – 0.2, compared to 1.1% in friendly takeovers. To investigate whether the total gains to both bidder and target shareholders are positive, we examine the combined abnormal returns which are the weighted average abnormal returns for both bidder and target, with the weights being the relative market values at the start of the announcement period. The combined announcement returns are significantly positive in both friendly and hostile takeovers, being 9.1% and 5.0% respectively. The difference of 4.1% between hostile and friendly takeovers is not statistically significant. The market's assessment of hostile takeovers at announcement appears consistent with the subsequent improvement in profit returns. However, the positive announcement period share returns in friendly takeovers appear at odds with the subsequent neutral profit effects reported in Section 4.1.

Panel B of Table 7 shows that over the four-year period following the completion date, the median abnormal return earned by bidders in hostile takeovers is – 4.0%, which is statistically insignificant. In contrast, the median abnormal return in friendly takeovers is only – 22.1%, which is statistically significant at the 1% level. The difference in post-takeover median abnormal returns between hostile and friendly takeovers is significant at the 10% level. Panel C reports the buy and hold returns over both the announcement and post-takeover periods to establish the overall returns to shareholders. Bidder shareholders in hostile takeovers experience insignificant returns of –7.4, whilst bidders in friendly takeovers experience negative abnormal returns of – 16.6%, significant at the 5% level. The combined abnormal return over both time periods consists of the weighted average of the target announcement

returns and the bidder overall returns. In hostile takeovers, the return is 5.4%, which is statistically insignificant. Alternatively, in friendly takeovers, the return is a significantly negative – 9.3%.

One possible explanation for the negative share returns in friendly takeovers is that the stock market reacts negatively to new information regarding the profitability of the takeover which only comes to light in the post-takeover period. To investigate this, we consider whether the post-takeover abnormal share returns are correlated with the profit effects of takeover, by estimating Eq. (1) including the post-takeover abnormal returns as an independent variable. The coefficient for this variable in the friendly takeover sample is 0.04, which is statistically significant at the 1% level. In contrast, for the hostile takeover sample the coefficient is an insignificant – 0.01.

Another possibility is that the post-takeover negative returns are driven by variables not controlled for in our counterfactual measure. In particular, Barber, Lyon and Tsai (1999) show that when sample firms differ from the population in terms of prior performance or industry factors, biased inferences can result when such factors are not controlled for. In Section 3.2, it was shown that bidders experience above average pre-takeover share returns, and therefore the post-takeover negative returns could represent reversals in share returns that are not the result of takeover itself. We consider whether the negative post-takeover returns are the result of mean reversions in share returns by examining the correlation between pre- and post-takeover abnormal returns. The correlation coefficients between the 36 month pre-takeover abnormal returns and the 48 month post-takeover abnormal returns for friendly and hostile takeovers are 0.083 (p-value = 0.36) and – 0.03 (p-value = 0.83) respectively. To check for industry effects we carry out the same analysis using the share returns of the non-merging size and industry matched control firms. However, the

results are very similar to those found using size- and book-to-market-control firms.

Another potential source of mis-specification in long-run returns is cross-sectional dependence in sample observations (Brav, 1999). To eliminate the problem of cross-sectional dependence, we employ a calendar-time portfolio approach as advocated by Barber, Lyon and Tsai (1999). We form portfolios of bidder firms and their control firms over the entire period of the study (January 1985 through March 1999). Each bidder and control firm is added to the portfolio in the month following completion and is kept in the portfolio for 48 months or until the firm ceases trading. We estimate average abnormal monthly returns for each month of the study, and an average abnormal monthly return for the entire period. Inference is based on a *t*-statistic derived from the time-series of the monthly calendar-time portfolio abnormal returns. For bidders in hostile takeovers, the monthly calendar-time portfolio abnormal return is –0.004% (*t*-statistic = -0.01). For bidders in friendly takeovers the return is –0.62% (*t*-statistic = -2.52), which is statistically significant at the 5% level. However, the difference between the two returns is not statistically significant.

As with profitability, the possibility exists that the effect of hostility on post-takeover share returns is the result of a correlation with another variable. To examine this we regress the post-acquisition returns on MOOD, PAYMENT, MTBV, HORIZONTAL, and RELSIZE. The results in Table 8 show that none of these variables have a significant impact on returns in either hostile or friendly acquisitions. However, regression (3) shows that when these variables are included in a regression, the coefficient of MOOD is not significant.

In summary, the evidence presented in this section indicates that both hostile and friendly takeovers create significant value for target shareholders at announcement, whilst bidder shareholders

neither gain nor lose. Over the long run post-takeover period, hostile takeovers result in mildly negative abnormal returns, whilst friendly takeovers result in significantly negative returns. However, the significant difference between hostile and friendly takeovers does not hold when we control for factors such as the method of payment.

4.4 Summary of findings

To summarize, hostile takeovers result in a significant improvement in profit returns, whilst friendly takeovers do not. Our results for the U.K. stand in contrast to the results of Healy, Palepu and Ruback (1997) who find that friendly takeovers significantly improve profitability whilst hostile takeovers do not. We find that hostile takeovers are associated with an increase in profit margins but not an increase in asset turnover. Hostile takeovers are associated with significant asset disposals, but not with significant reductions in employee numbers, remuneration or investment. The high level of asset disposals is consistent with previous studies such as Bhide (1989), Bhagat, Shleifer and Vishny (1990), and Franks and Meyer (1996), that report significant asset disposals following hostile takeovers. The finding that hostile takeovers do not result in a reduction in investment is consistent with the evidence reported by Bhagat, Shleifer and Vishny (1990), and Bhide (1989). During the takeover announcement period, shareholder wealth gains to targets in both hostile and friendly takeovers are significantly large, although the gains are significantly larger in hostile takeovers. This is consistent with the evidence of Franks and Mayer (1996), who find significantly larger bid premiums in hostile takeovers. There is no difference in the announcement returns of bidders in hostile and friendly takeovers, which experience zero abnormal returns. The combined returns in both hostile and friendly takeovers are significantly positive and not significantly different from one another. The long run post-takeover abnormal share returns in

hostile takeovers are not significantly different from zero. Alternatively, friendly takeovers result in significantly negative post-takeover share returns which outweigh the announcement returns and result in significantly negative overall returns.

5. The relation between post-takeover performance and target pre-takeover performance

The results presented in Sections 3 and 4 are not fully supportive of the disciplinary hypothesis that hostile takeovers are carried out because of poor target performance, which is subsequently improved in the post-takeover period. Another conjecture of the disciplinary theory is that the worse the pre-bid performance of the target, the bigger the potential improvement by shifting the target performance towards best practice.

Table 9 reports the results of regressions including measures of takeover performance as the dependent variable and three different measures of target pre-acquisition performance as the explanatory variables. The measures of target performance are the abnormal profit in year –1, the change in abnormal profit from year –2 to year –1, and the abnormal share return in the year –1. Panel A models the post-takeover profit returns as the dependent variable. In hostile takeovers, the coefficient for target profit in year –1 is negative but statistically insignificant. The coefficient for the change in profits is actually significantly positive, whilst the coefficient for target share returns is insignificantly positive. Therefore there is little evidence that in hostile takeovers, the worse the target performance, the better the profit performance of the acquisition. In panel B we model the combined announcement returns as the dependent variable. The coefficients for the target performance are insignificant for each measure, and of conflicting signs. Similar results are found in Panel B, where the post-acquisition bidder returns are modelled as the dependent variable. In sum, there is no evidence that hostile takeover performance is

negatively related to the pre-acquisition performance of the target company. Similar results are found for the sample of friendly takeovers.

According to the disciplinary hypothesis, the significant increase in asset disposals following hostile takeovers could be expected to be greater, the worse the pre-takeover performance of the target. In a separate analysis we examine the correlation between the change in asset disposals and the three measures of target pre-acquisition performance described above. We find no evidence of a negative correlation between the two variables.

To summarize, there is no evidence that in hostile takeovers, the post-takeover profit performance of the combined firms is negatively related to the pre-takeover profit performance of the target. The same is true in friendly takeovers. This finding is inconsistent with the evidence of Lang, Stulz, and Walkling (1989), and Servaes (1991), who find that total announcement returns are significantly higher in takeovers involving low *q* targets. Our evidence is inconsistent with the disciplinary hypothesis, which predicts that the degree of performance improvement and wealth creation following takeover is higher, the worse the pre-takeover performance of the target.

6. Conclusion

This paper examines whether hostile takeovers perform a disciplinary function by taking over poorly performing companies and improving their performance. Evidence comes from a comprehensive sample of hostile takeovers between U.K. public industrial firms completed in the period 1985 to mid-1996. We employ accounting and share return data to examine the performance of targets and bidders before the takeover, and the combined firm following the takeover. We find little evidence of relative underperformance by targets of hostile takeovers.

However, hostile targets do experience a significant decline in profits and share returns in the year of acquisition.

In the post-takeover period, there is clear evidence that the performance of combined firms improves following hostile takeovers. Profitability is enhanced, announcement share returns are positive and long run share returns are not significantly negative. In contrast, friendly takeovers do not improve performance in the post-takeover period, and result in significantly negative share returns in the long run period following the takeover. The wealth gains in hostile takeovers do not appear to come at the expense of employees or reductions in investment, but are instead associated with significant asset disposals. However, the superior performance of hostile takeovers does not hold when the method of payment is taken into account, and it appears that this performance may be the result of a correlation with cash acquisitions.

We examine whether the performance of hostile takeovers is related to the pre-acquisition performance of the target company. However, we find no evidence to suggest that this is the case.

Taken together, these findings suggest that friendly takeovers appear to be a manifestation of managerial failure in the bidder, and should be viewed with some degree of scepticism by bidder shareholders. However, the findings on hostile takeovers provide little evidence that the U.K. market for corporate control functions as an effective disciplinary device for underperforming companies.

Notes

1 See, e.g., Martin and McConnell (1991), Franks and Mayer (1996), and Schwert (2000).

2 See, e.g., Morck, Shleifer and Vishny (1988).

3 See, e.g., Franks and Mayer (1996), and Schwert (2000).

4 See, e.g., Ravenscraft and Scherer (1987), Herman and Lowenstein (1988), and Healy, Palepu and Ruback (1997).

5 See, e.g., Bhagat, Shleifer and Vishny (1990), Bhide (1989), and Franks and Mayer (1996).

6 There is also strong evidence of high target management turnover following hostile takeovers (Martin and McConnell, 1991).

7 Lang, Stulz and Walkling (1989), and Servaes (1991) find that shareholder wealth gains are significantly higher in takeovers involving low *q* targets and high *q* bidders.

8 It is of note that although hostile bids account for a minority of bids in terms of number, in terms of bid value they account for the majority of U.K. takeover bids. From 1985-95, the real (1998) value of hostile bids was £251 billion, whereas the real value of friendly takeovers bids was £214 billion.

9 Compared to the U.S., in the U.K. there are fewer antitakeover provisions enshrined in either corporate charters or state legislation. For example, the Takeover Code in the U.K. explicitly prevents the application of poison pills once a takeover bid has been launched.

[10] The control firms are selected by first matching each sample firm to all non-merging firms in the same Datastream industrial classification (equivalent to a two-digit SIC code). Secondly, to match on size, we select the potential control firm with the book value of assets closest to sample firms' asset size in the year prior to takeover.

[11] U.S. studies (see, e.g., Healy, Palepu and Ruback, 1992) employ the market rather than book value of assets as the denominator because the presence of goodwill and positive write-ups to fair values is likely to bias downwards accounting return on book asset measures. However, unlike their U.S. counterparts, over the time period of this study U.K. companies did not have to carry goodwill in the balance sheet and amortize it against income. Instead, they were able to immediately write off the goodwill against equity reserves in the balance sheet and so avoid diluting reported earnings with goodwill amortization. This gives a result which, save for the restatement of acquired assets at fair values, is substantially the same as pooling accounting. Consequently, U.K. companies have almost invariably chosen the write-off option, and unlike the U.S., write-ups to fair values have very infrequently been positive in the U.K. (Higson, 1998). Therefore, the downward bias observed in the U.S. does not appear to exist in the U.K.

[12] The results are qualitatively unchanged when we extend the analysis to 4 years.

[13] Barber and Lyon (1996) show empirically that this statistic is uniformly more powerful than any parametric *t*-statistic. We also carry out the following analysis using mean measures and parametric *t*-tests. Unless otherwise stated, the results are qualitatively similar.

[14] The control firms are selected by first dividing all U.K. stocks listed on Datastream into 50 equal sized portfolios based on their market values at the beginning of each calendar year. Secondly, each sample firm is then matched with the firm from its size portfolio which has the closest book-to-market. This procedure is repeated for each calendar year pre- and post-takeover. If a control firm dies within the year, we replace the returns from the month of exit with the returns of the next nearest firm in terms of book-to-market within the particular size portfolio. If this control firm subsequently dies then we use the next closest firm, and so on.

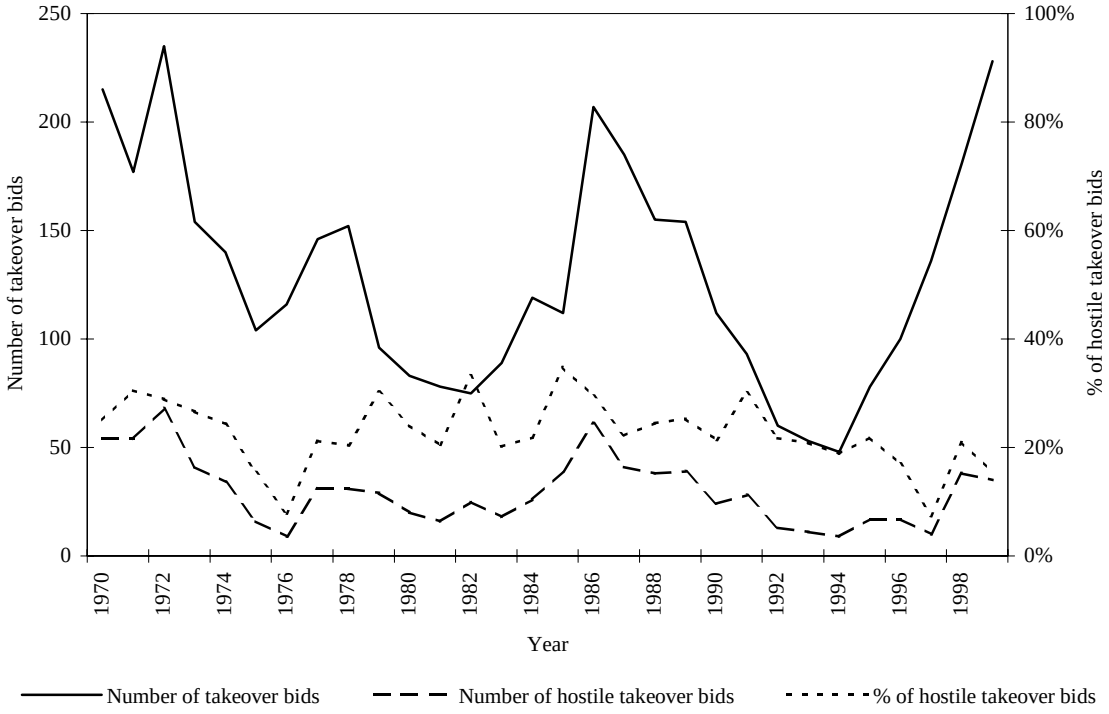
[15] Barber and Lyon (1997) show empirically that the size- and book-to-market control firm method yields well-specified Wilcoxon test statistics in all sampling situations analyzed. We also carry out the analysis using mean measures and parametric *t*-tests. Unless otherwise stated, the results are qualitatively similar.

[16] We also examine the effect of hostile takeovers on the number of employees and find similar results. The regression intercept is negative but once again statistically insignificant.

[17] We also examine the effect of takeover on cash proceeds from sales of disposals of share stakes (excluding associated companies and subsidiaries). These proceeds account for a smaller proportion of total assets than those from sales of assets. However, the results are identical to those for asset disposals.

FIGURES AND TABLES

Fig. 1. The number of takeover bids and number of hostile takeover bids for U.K. listed targets, 1970-99



This graph shows the number of takeover bids made for U.K. targets listed on the U.K. Stock Exchange, and the number and percentage of which are hostile. Hostile takeover bids are defined as those that are rejected initially by the target management. Sources: U.K. Takeover Panel Annual Reports, Acquisitions Monthly.

Table 1 Descriptive statistics for hostile and friendly takeovers completed between January 1985 and June 1996

Panel A reports the distribution by year of hostile takeovers and friendly takeovers made by U.K. public firms for U.K. public firms. Takeovers are classified as hostile if the target board's initial reaction is to recommend target shareholders to reject the offer or friendly if the initial reaction is to recommend acceptance. The takeovers are those in which the bidder and target are covered by the Datastream database. Panel B reports the distribution of size decile rankings of bidder and targets. Size deciles are computed at the end of the calendar year prior to the year of announcement for all U.K. listed firms. Decile 1 is the smallest. Panel C reports the distribution of book-to-market decile rankings, where book-to-market deciles are similarly computed at the end of year prior to the announcement year for all U.K. listed firms. Panel D reports the sizes of targets relative to bidders at the end of the month prior to the month of announcement.

Panel A: Distribution of takeover years

Years	Hostile takeovers		Friendly takeovers	
	Number	Percent of total	Number	Percent of total
1985	11	17.2	16	11.5
1986	9	14.1	27	19.4
1987	7	10.9	24	17.3
1988	8	12.5	21	15.1
1989	7	10.9	8	5.8
1990	5	7.8	8	5.8
1991	6	9.4	15	10.8
1992	1	1.6	2	1.4
1993	3	4.7	3	2.2
1994	2	3.1	6	4.3
1995	3	4.7	9	6.5
1996	2	3.1	0	0.0
Total	64	100.0	139	100.0

Panel B: Size deciles of bidder and target prior to the announcement of the takeover [b]

Size decile	Hostile takeovers		Friendly takeovers	
	Bidders	Targets	Bidders	Targets
1-2	1 (1.6%)	7 (10.9%)	9 (6.5%)	22 (15.8%)
3-4	10 (15.6%)	6 (9.4%)	10 (7.2%)	33 (23.7%)
5-6	6 (9.4%)	10 (15.6%)	17 (12.2%)	31 (22.3%)
7-8	10 (15.6%)	13 (20.3%)	33 (23.7%)	30 (21.6%)
9-10	37 (57.8%)	28 (43.8%)	70 (50.4%)	23 (16.5%)
Total	64	64	139	139

Average [a] (median)	£3211 (£1059)	£756 (£256)	£1470 (£474)	£205 (£53)

Panel C: Book-to-market deciles of bidder and target prior to the announcement of the takeover [c]

Book-to-market decile	Hostile takeovers		Friendly takeovers	
	Bidders	Targets	Bidders	Targets
1-2	13 (20.3%)	7 (10.9%)	34 (24.5%)	21 (15.1%)
3-4	21 (32.8%)	20 (31.3%)	42 (30.2%)	40 (28.8%)
5-6	16 (25.0%)	14 (21.9%)	31 (22.3%)	33 (23.7%)
7-8	9 (14.1%)	15 (23.4%)	19 (13.7%)	22 (15.8%)
9-10	5 (7.8%)	8 (12.5%)	13 (9.4%)	23 (16.5%)
Total	64	64	139	139
Average (median)	5.63 (1.79)	2.05 (1.41)	3.13 (1.74)	2.68 (1.82)

Panel D: Sizes of targets relative to bidders prior to the announcement of the takeover [d]

	Hostile takeovers	Friendly takeovers
Average	0.531	0.365
Maximum	7.213	4.625
Minimum	0.008	0.001
Median	0.240	0.203

[a] The market capitalization values of the targets are in billions of sterling, deflated using the FTSE All Share Index with 1998 as the base year.

[b] Using the Mann Whitney test, the null hypothesis that the two types of bidder have the same median size can be rejected at the 5% level. Hostile bidders are larger than friendly bidders. Using the Mann Whitney test, the null hypothesis that the two types of target have the same median size can be rejected at the 1% level. Hostile targets are larger than friendly targets.

[c] Using the Mann Whitney test, the null hypothesis that the two types of bidder have the same median book-to-market cannot be rejected at the 5% level. Using the Mann Whitney test, the null hypothesis that the two types of target have the same median book-to-market can be rejected at the 5% level. Hostile targets have lower book-to-market than friendly targets.

[d] Using the Mann Whitney test, the null hypothesis that the two types of takeover have the same median ratio of relative size of target to bidder cannot be rejected at the 5% level.

Table 2 The pre-takeover profit returns of targets and bidders in hostile and friendly takeovers

This table reports the abnormal target and bidder median profit returns for each of the three pre-takeover years where – 1 is the last accounting year prior to the bid. The change in profit returns between – 1 and – 2 is also reported. The control firms are industry- and size-matched non-merging firms. Profit is measured as operating profit plus other income and extraordinary items, divided by the average of beginning- and ending-period book value of assets. Non-parametric significance levels for tests in difference in medians are based on the Wilcoxon signed-ranks test.

Year relative to takeover	Hostile (N=64)	Friendly (N=139)	Hostile vs. Friendly
Panel A: Targets			
– 3	0.58	-2.64	3.22
	(-0.04)	(-0.03)	(-0.22)
– 2	3.57	-0.31	3.88
	(-0.68)	(-0.16)	(-0.55)
– 1	-4.09	-0.92	-3.17
	(-1.49)	(-0.27)	(-1.38)
(– 1) – (– 2)	-4.26 [a]	0.96	-5.22 [b]
	(-2.61)	(-0.64)	(-2.19)
Profit for– 3 to – 1	1.83	0.14	1.69
	(-0.27)	(-0.79)	(-0.35)
Panel B: Bidders			
– 3	-0.58	-1.01	0.43
	(-0.63)	(-0.87)	(-0.13)
– 2	0.37	1.27	-0.91
	(-0.16)	(-0.15)	(-0.19)
– 1	3.65	1.81 [c]	1.84
	(-0.62)	(-1.88)	(-0.61)
(– 1) – (– 2)	1.44	1.72 [b]	-0.28
	(-1.30)	(-2.03)	(-0.14)
Profit for– 3 to – 1	1.69	1.08	0.62
	(-0.06)	(-0.53)	(-0.02)
Panel C: Panel A vs.			
Panel B			
– 3	0.32	6.51 [c]	-6.19
	(-0.34)	(-1.85)	(-0.79)
– 2	-0.06	0.02	-0.08
	(-0.40)	(-0.82)	(-0.29)
– 1	-9.10 [b]	0.31	-9.42
	(-2.07)	(-0.32)	(-1.53)
(– 1) – (– 2)	-4.90 [a]	-1.10	-3.79
	(-2.84)	(-0.87)	(-1.54)
Profit for– 3 to – 1	-4.20	0.37	-4.57
	(-0.70)	(-0.94)	(-0.87)

[a, b, c] Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 3 The pre-takeover share returns of targets and bidders in hostile and friendly takeovers

The figures in this table are median buy and hold share returns for bidders and targets for years – 3, – 2, and – 1 where year – 3 starts 36 months prior to the month of the takeover announcement. Year – 1 is the six month period from month – 12 to month – 7. The control firms are matched on size and book-to-market. Non-parametric significance levels for tests in difference in medians are based on the Wilcoxon signed-ranks test.

Year relative to takeover	Hostile(N=64)	Friendly (N=139)	Hostile vs. Friendly
Panel A: Targets			
– 3	-2.64	5.21	-7.84
	(-0.38)	(-0.72)	(-0.84)
– 2	-2.12	2.33	-4.45
	(-0.56)	(-0.23)	(-0.27)
– 1	-4.83 [a]	-2.63	-2.20 [c]
	(-2.67)	(-0.39)	(-1.83)
– 3 to – 1	-18.33 [b]	-0.02	-18.31
	(-2.01)	(-0.25)	(-1.34)
Panel B: Bidders			
– 3	9.85 [b]	-0.75	10.60
	(-2.01)	(-0.94)	(-0.94)
– 2	4.93 [c]	6.24 [b]	-1.31
	(-1.89)	(-2.16)	(-0.39)
– 1	2.21	4.55 [a]	-2.34
	(-0.72)	(-2.90)	(-0.92)
– 3 to – 1	19.69 [a]	15.40 [a]	4.29
	(-2.86)	(-2.84)	(-0.48)
Panel C: Panel A vs. Panel B			
– 3	-7.97	-2.55	-5.41
	(-1.42)	(-0.01)	(-1.09)
– 2	-17.38 [b]	-6.23	-11.15
	(-2.24)	(-1.50)	(-1.02)
– 1	-5.63 [a]	-4.40 [b]	-1.23
	(-3.80)	(-2.38)	(-0.75)
– 3 to – 1	-46.28 [a]	-23.85 [a]	-22.43
	(-4.78)	(-6.09)	(-1.16)

[a, b, c] Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 4 The post-takeover profit returns of hostile and friendly takeovers

This table reports the effect of the takeover on abnormal profit returns, computed with reference to non-merging industry- and size-matched control firms. Profit is measured as operating profit plus other income and extraordinary items, divided by the average of beginning- and ending-period book value of assets. Pre-takeover returns for the combined firm are weighted averages of bidder and target returns, with the weights being the relative asset values of the two firms.

	HOSTILE TAKEOVERS		FRIENDLY TAKEOVERS		Hostile vs. Friendly
Year relative to takeover	Sample size, N	Combined firms abnormal median	Sample size, N	Combined firms abnormal median	
– 3	55	– 1.4% [c]	97	– 0.1%	
– 2	58	0.1	109	– 2.1	
– 1	58	– 1.3	123	0.0	
Median annual profit for years – 3 to – 1	58	– 0.9	123	– 0.4	-0.5 (-1.15)
1	58	1.4	123	2.5 [c]	
2	54	3.6	113	0.2	
3	47	– 0.4	99	– 3.4 [b]	
Median annual profit for years 1 to 3	58	3.1 [c]	123	– 0.6	3.7 (-1.04)
Median difference in pre- and post-bid profit	58	4.35 [a]	123	0.75	3.6 [c] (-1.91)

[a, b, c] Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 5 The post-takeover profit returns of hostile and friendly takeovers

This table reports the effect of the takeover on abnormal profit returns, computed with reference to non-merging industry- and size-matched control firms. Profit is measured as operating profit plus other income and extraordinary items, divided by the average of beginning- and ending-period book value of assets. Pre-takeover returns for the combined firm are weighted averages of bidder and target returns, with the weights being the relative asset values of the two firms. The dependent variable is the median adjusted profit for the three-year post-takeover period, PROFPRE is the median adjusted profit for the three-year pre-takeover period. MOOD is a dummy variable which equals one if the takeover is hostile, zero if friendly. PAYMENT is a dummy variable which equals one if the method of payment includes a 100% cash alternative. MTBV is the MTBV of the bidder at the last accounting year prior to takeover. HORIZONTAL is a dummy variable which equals one if the takeover is horizontal, defined as being in the same 2-digit SIC. RELSIZE is the market valuation of the target divided by the market valuation of the bidder at the last accounting year prior to takeover. *t*-statistics are in parentheses.

	SAMPLE					
	Hostile takeovers		Friendly takeovers		All takeovers	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.049 [a]	0.0056	– 0.007	-0.0512 [c]	– 0.007	-0.0362 [c]
	(2.77)	(0.16)	(– 0.47)	(-1.93)	(– 0.50)	-(1.71)
PROFPRE	0.52 [a]	0.4769 [a]	0.337 [a]	0.3292	0.3815 [a]	0.3746 [a]
	(4.08)	(3.69)	(3.62)	(3.43)	(5.01)	(4.81)
MOOD					0.0522 [b]	0.0377
					(2.01)	(1.42)
PAYMENT		0.0356		0.0632 [c]		0.0594 [b]
		(0.98)		(1.97)		(2.38)
MTBV		0.0005		0.0067 [c]		0.0010
		(0.85)		(1.93)		(1.30)
HORIZONTAL		-0.0126		-0.0022		-0.0075
		-(0.35)		(-0.06)		-(0.29)
RELSIZE		0.0391 [b]		-0.0013		0.0031
		(2.32)		(-0.15)		(0.40)
F-statistic	16.40	4.89	13.09	4.24	13.74	5.79
p-value	(0.0002)	(0.0010)	(0.0004)	(0.0014)	(0.0000)	(0.0000)
Adjusted R^2	0.21	0.25	0.09	0.12	0.13	0.14
N	58	58	123	123	181	181

a, b, c Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 6 The post-takeover operating and investment characteristics of hostile and friendly takeovers

Operating profit margin is defined as; operating profit + extraordinary items / sales. Asset turnover is defined as sales / total assets. Employment costs consist of wages, salaries, and pension contributions. Number of employees is the total number, including part time workers. Asset disposal rate is defined as; cash receipts from fixed asset sales / total assets at beginning of year. Capital expenditure rate is defined as capital expenditures / total assets at beginning of year. The figures in column 4 of Panels A and B are the estimated intercepts from regressing post-takeover abnormal performance (POST*)* on pre-takeover abnormal performance (PRE*)*, where pre- (post-takeover) performance is the median of the three-year pre-takeover (post-takeover) period. Panel C reports the results of this regression, calculated for the sample of both hostile and friendly takeovers. MOOD is a dummy variable that equals one if the takeover is hostile and zero if the takeover is friendly. *t*-values are in parentheses. Abnormal values are computed with reference to non-merging industry- and size-matched control firms. Pre-takeover measures for the combined firm are weighted averages of bidder and target returns, with the weights being the relative sizes of the two firms.

	Combined firms abnormal median		Abnormal post-takeover performance	Sample size, N
Variable	Pre-takeover	Post-takeover		
Panel A: Hostile takeovers				
Operating profit margin	– 0.1	0.3	2.1 [c]	58
Asset turnover	0.05x	– 0.01x	– 0.06x	57
Employee growth rate	0.2%	– 6.3% [a]	– 2.6%	52
Employment costs per employee	– £324.7	– £157.4	– £68.0	55
Asset disposal rate	0.4 [a]	0.8 [a]	1.0 [b]	56
Capital expenditure rate	– 0.2	– 0.1	– 1.0	56
Panel B: Friendly takeovers				
Operating profit margin	0.7	1.2	– 0.19	121
Asset turnover	– 0.01x	– 0.1x [b]	– 0.1x	123
Employee growth rate	0.0%	– 3.0% [c]	– 1.9%	117
Employment costs per employee	– £194.6	£6.6	£264.2	120
Asset disposal rate	0.5 [a]	0.4 [a]	0.0	122
Capital expenditure rate	0.0	0.0	– 1.0	121

Panel C: Difference between hostile and friendly takeovers

Dependent variable (POST)	Intercept	Independent variables		*F*-statistic	R^2	N
		PRE	MOOD			
Operating profit margin	– 0.002	0.444 [a]	0.022 [c]	30.9 [a]	0.25	183
Asset turnover	– 0.055	0.711 [a]	0.008	120.9 [a]	0.58	180
Employee growth rate	– 0.019	– 0.003	– 0.007	0.3	0.00	169
Employment costs per employee	0.264	1.232 [a]	– 0.334	679.7 [a]	0.89	169
Asset disposal rate	0.001	0.164 [a]	0.008 [c]	6.6 [a]	0.07	178
Capital expenditure rate	– 0.010	0.531 [a]	0.008	25.2 [a]	0.23	177

a, b, c Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 7 The announcement and post-takeover share returns of hostile and friendly takeovers (in %)

This table reports median buy and hold share returns for bidders and targets for the announcement and post-takeover periods. The announcement period lasts from the beginning of the announcement month to the end of the month of completion. The post-takeover period lasts from the end of the month of completion to 4 years afterwards. The abnormal share returns are computed with reference to control firms matched on size and book-to-market. The combined abnormal return is the weighted average return of the bidder and target abnormal returns, with the weights being the relative market values of the two firms. Non-parametric significance levels for tests in difference in medians are based on the Wilcoxon signed-ranks test (*z*-statistics are in parentheses).

	HOSTILE TAKEOVERS (N=58)	FRIENDLY TAKEOVERS (N=123)	HOSTILE VS. FRIENDLY
Panel A: Announcement period			
Bidder	– 0.2	1.1	-1.3
	(– 0.34)	(– 0.73)	(-0.13)
Target	41.9 [a]	28.2 [a]	13.7 [b]
	(– 6.24)	(– 7.81)	(-2.63)
Combined	9.1 [a]	5.0 [a]	4.1
	(– 4.08)	(– 4.28)	(-1.25)
Panel B: Post-takeover period [a]			
Bidder	– 4.0	– 22.1 [a]	18.1 [c]
	(– 0.38)	(– 2.98)	(-1.74)
Panel C: Announcement and post-takeover period			
Bidder	– 7.4	– 16.6 [b]	9.2
	(– 0.08)	(– 2.64)	(-1.19)
Combined	5.4	– 9.3 [c]	14.7 [c]
	(– 0.99)	(– 1.86)	(-1.72)

Hostile takeovers earn median annual abnormal returns of 8.9%, – 5.4%, 13.7%, – 1.6% during years 1 to year 4. Friendly takeovers earn median annual abnormal returns of – 4.2% [c], – 6.3% [d], 0.2%, – 5.6 % [b] during years 1 to year 4.

a, b, c Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 8 Regression of post-takeover share returns on the mood of the takeover and other variables (in %)

The dependent variable is the 4 year median buy-and-hold share returns for bidders from the end of the month of completion to 4 years afterwards. The abnormal share returns are computed with reference to control firms matched on size and book-to-market. MOOD is a dummy variable which equals one if the takeover is hostile, zero if friendly. PAYMENT is a dummy variable which equals one if the method of payment includes a 100% cash alternative. MTBV is the MTBV of the bidder at the last accounting year prior to takeover. HORIZONTAL is a dummy variable which equals one if the takeover is horizontal, defined as being in the same 2-digit SIC. RELSIZE is the market valuation of the target divided by the market valuation of the bidder at the last accounting year prior to takeover. *t*-statistics are in parentheses.

	SAMPLE		
	Hostile takeovers	Friendly takeovers	All takeovers
	(1)	(2)	(4)
Intercept	0.1746	-0.1768	-0.1491
	(0.42)	(-0.84)	(-0.82)
MOOD			0.2867
			(1.27)
PAYMENT	0.2424	0.0335	0.0971
	(0.55)	(0.14)	(0.46)
MTBV	0.0043	-0.0029	0.0029
	(0.59)	(-0.11)	(0.46)
HORIZON	-0.7137	-0.3280	-0.4456 [b]
TAL	(-1.65)	(-1.28)	(-2.05)
RELSIZE	-0.2777	-0.1205	-0.2039
	(-1.36)	(-0.52)	(-1.42)
F-statistic	1.22	0.57	1.69
p-value	(0.3140)	(0.6870)	(0.1390)
Adjusted R^2	0.02	-0.02	0.02
N	58	123	181

a, b, c Significantly different from zero at the 1, 5 and 10% levels respectively, using a two tailed test

Table 9 Cross sectional regressions of takeover performance on the pre-takeover performance of the target

In Panel A the dependent variable is the median abnormal annual profit return for the three year post-takeover period. PROFPRE is the median abnormal annual profit return for the three year pre-takeover period. ADPROF t-1 is the target abnormal profitability in year –1. ADCHANGE is the change in target abnormal profit from year –2 to –1. ADBHAR t-1 is the target buy-and-hold abnormal return from month –12 to month –6. In Panel B the dependent variable is the announcement period combined returns to bidders and targets. In Panel C, the dependent variable is the post-takeover abnormal share returns of the acquirer. *t*-statistics are in parentheses.

	SAMPLE					
	Hostile takeovers			Friendly takeovers		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Post-takeover profit returns						
Intercept	0.0483 [a]	0.0581 [a]	0.0583 [a]	-0.0090	-0.0047	-0.0075
	(2.66)	(3.24)	(3.13)	(-0.57)	(-0.29)	(-0.47)
PROFPRE	0.5383 [a]	0.6205 [a]	0.4513 [a]	0.2912 [a]	0.4822 [a]	0.3397 [a]
	(3.93)	(4.63)	(3.37)	(2.91)	(4.50)	(3.62)
ADPROF t-1	-0.0348			0.0869		
	(-0.43)			(1.32)		
ADCHANGE		0.2991 [b]			0.0913 [c]	
		(2.05)			(1.67)	
ADBHAR t-1			0.0977			-0.0011
			(1.54)			(-0.03)
F-statistic	8.17	10.78	16.40	7.54	10.41	6.57
p-value	(0.0008)	(0.0001)	(0.0002)	(0.0008)	(0.0001)	(0.0020)
Adjusted R^2	0.20	0.26	0.21	0.10	0.1438	0.084
N	58	58	58	123	123	123
Panel B: Announcement returns						
Intercept	0.1024 [a]	0.0971 [a]	0.1018 [a]	0.0613 [a]	0.0612 [a]	0.0631 [a]
	(4.30)	(4.13)	(4.04)	(4.35)	(4.36)	(4.21)
ADPROF t-1	0.0519			-0.0209		
	(0.51)			(-0.38)		
ADCHANGE		-0.1573			-0.0269	
		(-0.85)			(-0.71)	
ADBHAR t-1			0.0162			-0.0443
			(0.20)			(-0.89)
F-statistic	0.26	0.71		0.15	0.51	0.79
p-value	(0.6146)	(0.4014)		(0.7022)	(0.4786)	(0.3746)
Adjusted R^2	-0.01	0.00	-0.02	0.00	0.00	0.00

N	58	58	58	123	123	123
Panel C: Post-takeover share returns						
Intercept	-0.0117	-0.0760	0.0215	-0.3181 [a]	-0.3114 [b]	-0.3100 [a]
	(-0.06)	(-0.36)	(0.10)	(2.73)	(-2.47)	(-2.66)
ADPROF t-1	1.0347			0.3926		
	(1.14)			(0.87)		
ADCHANGE		-0.8783			0.0946	
		(-0.53)			(0.23)	
ADBHAR t-1			0.7097			-0.0948
			(0.98)			(-0.30)
F-statistic	1.29	0.28	0.96	0.75	0.05	0.09
p-value	(0.2602)	(0.6013)	(0.3324)	(0.3870)	(0.8219)	(0.7642)
Adjusted R^2	0.01	-0.01	0.00	0.00	-0.01	-0.01
N	58	58	58	123	123	123

a, b, c Significantly different from zero at the 1, 5% and 10% levels respectively, using a two tailed test

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Notes

[1] See, e.g., Martin and McConnell (1991), Franks and Mayer (1996), and Schwert (2000).

[2] See, e.g., Morck, Shleifer and Vishny (1988).

[3] See, e.g., Franks and Mayer (1996), and Schwert (2000).

[4] See, e.g., Ravenscraft and Scherer (1987), Herman and Lowenstein (1988), and Healy, Palepu and Ruback (1997).

[5] See, e.g., Bhagat, Shleifer and Vishny (1990), Bhide (1989), and Franks and Mayer (1996).

[6] There is also strong evidence of high target management turnover following hostile takeovers (Martin and McConnell, 1991).

[7] Lang, Stulz and Walkling (1989), and Servaes (1991) find that shareholder wealth gains are significantly higher in takeovers involving low *q* targets and high *q* bidders.

[8] It is of note that although hostile bids account for a minority of bids in terms of number, in terms of bid value they account for the majority of U.K. takeover bids. From 1985-95, the real (1998) value of hostile bids was £251 billion, whereas the real value of friendly takeovers bids was £214 billion.

[9] Compared to the U.S., in the U.K. there are fewer antitakeover provisions enshrined in either corporate charters or state legislation. For example, the Takeover Code in the U.K. explicitly prevents the application of poison pills once a takeover bid has been launched.

[10] The control firms are selected by first matching each sample firm to all non-merging firms in the same Datastream industrial classification (equivalent to a two-digit SIC code). Secondly, to match on size, we select the potential control firm with the book value of assets closest to sample firms' asset size in the year prior to takeover.

[11] U.S. studies (see, e.g., Healy, Palepu and Ruback, 1992) employ the market rather than book value of assets as the denominator because the presence of goodwill and positive write-ups to fair values is likely to bias downwards accounting return on book asset measures. However, unlike their U.S. counterparts, over the time period of this study U.K. companies did not have to carry goodwill in the balance sheet and amortize it against income. Instead, they were able to immediately write off the goodwill against equity reserves in the balance sheet and so avoid diluting reported earnings with goodwill amortization. This gives a result which, save for the restatement of acquired assets at fair values, is substantially the same as pooling accounting. Consequently, U.K. companies have almost

invariably chosen the write-off option, and unlike the U.S., write-ups to fair values have very infrequently been positive in the U.K. (Higson, 1998). Therefore, the downward bias observed in the U.S. does not appear to exist in the U.K.

[12] The results are qualitatively unchanged when we extend the analysis to 4 years.

[13] Barber and Lyon (1996) show empirically that this statistic is uniformly more powerful than any parametric *t*-statistic. We also carry out the following analysis using mean measures and parametric *t*-tests. Unless otherwise stated, the results are qualitatively similar.

[14] The control firms are selected by first dividing all U.K. stocks listed on Datastream into 50 equal sized portfolios based on their market values at the beginning of each calendar year. Secondly, each sample firm is then matched with the firm from its size portfolio which has the closest book-to-market. This procedure is repeated for each calendar year pre- and post-takeover. If a control firm dies within the year, we replace the returns from the month of exit with the returns of the next nearest firm in terms of book-to-market within the particular size portfolio. If this control firm subsequently dies then we use the next closest firm, and so on.

[15] Barber and Lyon (1997) show empirically that the size- and book-to-market control firm method yields well-specified Wilcoxon test statistics in all sampling situations analyzed. We also carry out the analysis using mean measures and parametric *t*-tests. Unless otherwise stated, the results are qualitatively similar.

[16] We also examine the effect of hostile takeovers on the number of employees and find similar results. The regression intercept is negative but once again statistically insignificant.

[17] We also examine the effect of takeover on cash proceeds from sales of disposals of share stakes (excluding associated companies and subsidiaries). These proceeds account for a smaller proportion of total assets than those from sales of assets. However, the results are identical to those for asset disposals.