Does Mandatory Shareholder Voting Prevent Wealth Destruction in Corporate Acquisitions?

Marco Becht
ECARES, Université Libre de Bruxelles, CEPR and ECGI

*Andrea Polo**
Universitat Pompeu Fabra and Barcelona GSE

Stefano Rossi
Krannert School of Management, Purdue University, CEPR and ECGI

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Contact author: Universitat Pompeu Fabra- Department of Economics and Business
andrea.polo@upf.edu

Abstract

Corporate acquisitions can be ruinous and have caused some of the largest losses in shareholder wealth in history. Can shareholder voting prevent such corporate disasters? Previous empirical studies are inconclusive because shareholder approval was not a binding constraint. We study non-financial U.K. Class 1 transactions that involve relatively large targets and are subject to mandatory shareholder approval. Our findings suggest that majority voting can deter bad acquisitions. We observe that Class 1 proposals never fail and that acquiring shareholders gain 8 cents per dollar at announcement of the deal or $13.6 billion over 1992-2010 in aggregate. In the United States acquirers lost $214 billion in deals of similar size during the same period. In the UK relatively smaller Class 2 transactions do not require a vote and shareholders lost $3 billion. Our results are robust to a large set of controls for confounding effects. An application of the Multidimensional Regression Discontinuity Design (MRDD) supports a causal interpretation of our findings. In our data, mandatory shareholder voting prompts boards to withdraw deal proposals that face shareholder disapproval prior to a formal vote.

"If I had a chance to vote on this, I'd vote no. [Irene Rosenfeld] thinks it's a good deal; I think it's a bad deal."

Warren Buffet, in an interview to CNBC (20 January 2010) with reference to the proposed acquisition of Cadbury by Kraft. Warren Buffet, as Chairman of Berkshire Hathaway, was Kraft's single largest shareholder with a 9.4% stake. Irene Rosenfeld was the CEO of Kraft.

1. Introduction

One of the most striking features of corporate governance is the systematic destruction of shareholder value caused by unsuccessful acquisitions. Extensive empirical evidence documents that a large percentage of M&A destroys value for acquiring shareholders (Andrade, Mitchell and Stafford (2001), Bouwman, Fuller and Nain (2009)) and this value reduction has been substantial in recent years (Moeller, Schlingemann, and Stulz (2005)). Why do boards and management take decisions that can lead to the total loss of their investment?

There are two leading views of this. The first one posits the existence of an agency problem – management has its own agenda, interests, and goals that conflict with those of shareholders (Berle and Means (1933), Jensen and Meckling (1976)), and such conflicts are particularly acute in the case of takeovers (Jensen (1986), Morck, Shleifer, and Vishny (1990)). Managers know what they are doing and deliberately take excessive risks, either at the expense of current shareholders, particularly when they can freely dispose of excess cash (Harford (1999)); or at the expense of future shareholders, particularly when they can issue overpriced stock (Shleifer and Vishny (2003), Savor and Lu (2009), Dong, Hirshleifer, Richardson, and Teoh (2006)).[1] The second view focuses on managerial overconfidence. Overconfident CEOs overbid relative to rational managers (Roll (1986)) and, in general, overestimate their ability to generate returns from M&A transactions (Malmendier and Tate (2008)).

Whether such value destruction in acquisitions is explained by agency or overconfidence, shareholder voting does naturally provide a potential solution. Having to seek shareholder approval for major, consequential decisions such as M&A may force both the overconfident and the self dealing CEO to reconsider, even without a

[1] Agency may also involve target CEOs who negotiate large cash payments in the form of special bonuses or increased golden parachutes. Hartzell, Ofek, and Yermack (2004) find that such negotiated cash payments are associated with lower premia for target shareholders.

formal vote.[2] To be sure, shareholder voting is not necessarily always effective, as it is well known that institutional investors tend to be passive and on routine decisions vote in favor of management proposals.[3] Nevertheless, shareholder voting should be an effective tool particularly in the context of corporate acquisitions, as the stakes are very high there. Even for the most passive of institutional shareholders the cost of voting should be small relative to the large expected gain from preventing poor acquisitions. Therefore, it is ultimately an empirical question whether shareholder voting can prevent value-destroying acquisitions.

A number of papers have attempted to investigate this issue in the U.S. context (e.g., Kamar (2006), Hsieh and Wang (2008)), but they are inconclusive, because shareholder voting on proposed acquisitions in the U.S. is not mandatory.[4] In principle, U.S. stock exchange rules require a listed acquirer to obtain shareholder approval whenever the acquirer issues new shares exceeding 20% of the outstanding equity to finance the acquisition. In practice, however, managers can easily avoid the voting by issuing less than 20% of their shares as consideration and paying the rest in other securities or in cash. In fact, Hsieh and Wang (2008) find that acquisitions that are structured to bypass shareholder approval are more likely to be value-reducing deals.[5] As a result, any documented positive correlation of shareholder voting and M&A performance in the U.S. would clearly reflect endogeneity in the form of reverse causality—value-reducing deals are pushed through without a shareholder vote—and therefore cannot be taken as evidence of the effectiveness of shareholder voting.

We overcome this empirical challenge by focusing on the U.K. setting where shareholder voting on significant acquisitions is mandatory. The U.K. Listing Rules require a vote if the company buys an asset that is large relative to the acquirer. Crucially, such relative size is defined based on a specific threshold rule. Deals above this threshold are called Class 1 transactions and represent a facility for the exercise of governance over acquisitions. By contrast, the smaller Class 2 transactions do not

[2] Even when issuing overvalued stock may be in principle in the interest of some of the current shareholders, having to face a vote in which these issues are publicly discussed may deter CEOs from going ahead.

[3] These findings of institutional investors 'passivity' have called into question the effectiveness of shareholder voting in corporate governance (Yermack (2010)).

[4] One exception is the relatively uncommon "merger of equals", which has to be voted by the shareholders of both of the merging companies.

[5] Also ex-post recourse such as litigation tends to be ineffective, so the only action available to disaffected shareholders is often to start time consuming and costly proxy fights to try to replace members of the board.

require a shareholder vote. We exploit such threshold rule to generate exogenous variation in shareholder voting and compare shareholder returns around the threshold. We examine the impact of shareholder voting on the performance of acquisitions by comparing Class 1 and Class 2 transactions in the U.K., and by comparing Class 1 U.K. transactions with U.S. transactions of similar size.

We find that shareholders in the U.K. never vote against Class 1 transactions ex post. Remarkably, 66% of all Class 1 transactions go to a successful vote very quickly, in less than a month. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. We find that Class 1 acquiring shareholders gain 8 cents per dollar at the announcement of the deal, for an aggregate gain of $13.6 billion over 1992-2010. By comparison, in the relatively smaller Class 2 U.K. transactions that do not require a vote, shareholders lost $3 billion in the aggregate. These differences are highly statistically significant at all levels of confidence.

We perform a large number of tests to evaluate the robustness to our findings. First, we control for a large number of variables such as relative size, means of payment, Tobin's Q, free cash flow, leverage, the private or public nature of the target, and whether the deal is hostile or cross border or diversifying. Even though Class 1 acquirers have a higher Tobin's Q than Class 2 ones, and Class 1 deals are more likely to use stock and to involve a publicly listed target than Class 2 deals, we find that these differences do not explain the difference of performance between Class 1 and Class 2 deals. If anything, adjusting for these factors only makes our results stronger, both in terms of statistical significance and economic magnitude. Furthermore, we examine various subsamples, and we find that our results hold equally strongly for acquirers in the top and in the bottom size quartile, in the subsample of private targets, and in the subsample of all-cash deals.

Remarkably, our results are also robust to performing various versions of the matching method with propensity score. Again, constructing a sample of Class 1 and Class 2 deals that are similar to each other, at least based on observable characteristics, only makes our results stronger.

It can still be argued that by comparing Class 1 with Class 2 deals we are simply comparing large vs. small relative size transactions: that is, we are simply capturing a relative-size effect instead of the effect of the mandatory shareholder voting. First, we

observe that in the empirical and theoretical literature on the returns to acquisitions the relative size of a transaction is not clearly associated with higher returns. Second, we note that we do control specifically for relative size in the multivariate analysis, and our results are confirmed.

A more subtle concern, however, would hold that what drives selection of a given deal into Class 1 status is some unobservable characteristic, such as for example growth opportunities, which also correlate with relative size and with performance, and therefore our results capture the effect of such unobservable characteristic rather than the effect of shareholder voting.

We address this concern by exploiting the threshold rule that determines whether a transaction is Class 1 to generate exogenous variation in shareholder voting. By doing so, we are effectively restricting our sample to a subset of transactions that are similar in terms of relative size, and that only differ in that they are on the opposite side of the threshold. As long as deals on the opposite side of the threshold are also similar in terms of unobservable characteristics, in that they can be represented as smooth functions of those characteristic, any jump in performance that we detect across the threshold can be uniquely ascribed to the effect of shareholder voting, which can thus be interpreted as causal.

We perform this analysis in two steps. First, we perform a "small band" analysis restricting the sample to comparing small Class 1 transactions with large Class 2 transactions, using several thresholds, and we find that in this subsample Class 1 transactions still significantly outperform Class 2 ones and the economic effect, instead of diminishing, increases to almost 3%. Second, we perform a version of the Multidimensional Regression Discontinuity Design (MRDD), which formally models the selection of a transaction into Class 1 status as a function of the threshold rule in the first stage; and the jump in the performance outcome between Class 1 and Class 2 transactions as a function of the threshold rule. The threshold is multidimensional, as according to U.K. Listing Rules a transaction is formally identified as Class 1 if its relative size exceeds 25%, whereby for the purposes of this test relative size is defined as one of the following four items: 1) the ratio of gross assets; 2) the ratio of profits; 3) the ratio of the consideration offered and the market cap of the acquirer; 4) the ratio of gross capital.

While current data availability on items 2), 3), and 4) restricts our sample size to about one quarter of the main sample, we do find that the threshold rule strongly explains selection into Class 1 status, and the local Wald estimator of the impact of Class 1 status on performance is statistically significant, supporting a causal interpretation of the effect of shareholder voting on M&A performance.

Next, we examine U.S. acquisitions of similar relative size to the Class 1 U.K. deals. Strikingly, we find that in these deals U.S. shareholders lost $210 billion in the aggregate. Therefore, our findings indicate that Class 1 transactions in the U.K. systematically increase shareholder value and are always approved ex post, while acquisitions of similar size in the U.S. lead to large losses for acquiring shareholders.

One natural conjecture to explain these results is that the really bad acquisitions in the U.K. never see the light of day, as U.K. CEOs may give up on a "bad deal" proposal rather than face a negative vote.[6] We investigate this conjecture more formally, by focusing on the announcement returns of Class 1 and Class 2 deals that are later withdrawn. Consistent with our conjecture, we find that the announcement returns of Class 1 transactions that are later withdrawn are negative, statistically different from zero, and very large in economic terms. By comparison, Class 2 transactions that are later withdrawn have announcement returns that are insignificantly different from zero. And in general, following a large negative announcement return (<-3%), Class 1 transactions are significantly more likely to be withdrawn than Class 2 transactions.

In sum, our results indicate that shareholder voting is a governance mechanism that can effectively prevent poor acquisitions, at least those that appear to be poor already from an ex ante standpoint. In our data, the prospect of shareholder voting leads CEOs and boards that are facing disapproval to withdraw deal proposals prior to a formal vote. Our results support policy reforms in the direction of strengthening the degree of shareholder oversight, at least for large transactions such as takeovers of large target firms.

Besides the literature on acquisitions and shareholder voting reviewed above, our paper is related to a recent and growing body of evidence that shows that

[6] Very few Class 1 transactions are approved by shareholders following a large negative stock market reaction that does not reverse prior to the EGM. In our data, only 26 Class 1 deals (2.3% of the total) obtain a stock price reaction lower than -3% that is later not reversed and are still approved by the shareholders at the EGM. These deals could go through due to the presence of controlling shareholders who can single-handedly force the approval or due to disagreements between different groups of shareholders about the long-term outcome of the transaction.

governance mechanisms have a causal effect on shareholder wealth and firm performance (e.g., Agrawal (2013), Ahern and Dittmar (2012), Bertrand and Mullainathan (2003), Chhaocharia and Grinstein (2007), Garvey and Hanka (1999), Giroud and Mueller (2010), Greenstone, Oyer, and Vissing-Jorgensen (2006)). The most closely related paper is Cunat, Gine, and Guadalupe (2012), who use a Regression Discontinuity Design to show that closely contested shareholder votes lead to higher shareholder returns. There are two main differences with our study, as they focus on shareholder votes on non-acquisition-related governance proposals, and they examine the ex post outcome of actual votes, while we consider the ex ante impact of mandatory shareholder voting.

The paper is organized as follows. Section 2 provides the legal and institutional framework. Section 3 describes the data. Section 4 reports the empirical results. Section 5 concludes the paper.

2. Law and institutions

In 2010 the food giant Kraft Inc. launched a hostile takeover bid for the UK target Cadbury Plc. Kraft was listed on the New York stock exchange and incorporated under the law of Virginia. The deal was opposed by Warren Buffet, Kraft's single largest shareholder with a 9.4% stake, on the grounds that the price Kraft was prepared to pay for Cadbury was excessive and damaging for Kraft shareholders.

Warren Buffet had little influence on the outcome of the deal. The corporate law of Virginia does not give shareholders the automatic right to vote on a corporate acquisition. The listing rules of the New York Stock Exchange only require a vote if a company wishes to issue common stock "equal to or in excess of 20 percent of the number of shares of common stock outstanding before the issuance of the common stock or of securities convertible into or exercisable for common stock." Even when this threshold is met it is relatively easy for an acquirer to work around this requirement (Davidoff 2010).

UK Listing Rules

Companies listed in the United Kingdom are subject to more stringent rules. Chapter 10.1 of the listing rules requires that shareholders of listed companies entering

into certain transactions be duly notified and "have the opportunity to vote on larger proposed transactions" (LR10.1.2(2)). These larger transactions requiring mandatory shareholder approval are known as "Class 1 transactions".

What constitutes a Class 1 transaction is defined in our "Class tests" (for details see Appendix) where each defines a ratio that measures the relative importance of the target relative to the acquirer:

I. The gross assets test: the ratio of the gross assets of the target and acquirer;

II. The profits test: the ratio of the profits of the target after deducting all charges except taxation and the profits of the acquirer;

III. The consideration test: the ratio of the consideration for the transaction offered to the target and the market value of all the ordinary shares of the acquirer.

IV. The gross capital test: the ratio of the gross capital of the target and the acquirer[7].

On the basis of the tests, transactions are classified into four classes (LR 10.2):

1. Class 1 transaction : a transaction where one or more of the class test percentage ratios is larger than 25%;

2. Class 2 transaction : a transaction where any percentage ratio is between 5% and 25%;

3. Class 3 transaction : a transaction where all the percentage ratios are less than 5%;

4. Reverse takeover: a transaction where any of the class test percentage ratios is larger than 100% or the transaction would result in a change of business, board or voting control of the acquirer.

Once a transaction has been classified, the listing rules define the obligations for the acquirer for each case.

a. Class 3 transactions are the least onerous. They merely require a basic notification to the regulatory information service (RIS) once the transaction has been agreed (LR 10.3);

[7] The gross capital of the target is the consideration plus any shares or debt securities which are not acquired. The gross capital of the acquirer is the market value of the shares plus the amount of debt issued.

b. Class 2 transactions require a more detailed notification to the regulatory information service (RIS) (LR 10.4.1). Acquirers must also publish an update if there are significant changes to the original notification (LR 10.4.2).

c. Class 1 transactions have all the notification requirements of a Class 2 transaction but, in addition, the acquirer must furnish shareholders with an explanatory circular, must get prior approval for the transaction from the shareholders in a shareholder meeting and must ensure that any agreement with the target is conditional upon shareholder approval (LR 10.5).

These well established listing rules ensure that all acquisitions by a U.K. company listed in the Main Market larger than a certain multidimensional size threshold must have shareholder approval.[8]

Business Practice

To understand the time line of notifications and the role of different players in a Class 1 transaction, we interviewed managers, brokers and FSA officials (see Figure 1). The manager contacts the banker, who usually acts also as a sponsor[9] for the company, and proposes a business plan for the acquisition and seeks financing. The banker decides whether he is interested in funding the project and, in case the transaction appears to be a Class 1 according to the relative size figures, advises on the potential shareholder reaction. In case of a positive feedback by the banker, the management takes the proposal to the board. If the board gives its consensus, the company starts to prepare the documentation. Around 6-8 weeks before the public announcement, the sponsor sends the FSA a draft of the circular which must be approved by the FSA before it is put into the public domain. In a cover letter, the sponsor provides a calculation of the four ratio tests together with an explanation of the data used - which accounting year, the date of the market capitalization valuation and how exactly the ratios have been calculated. In some cases the sponsor will engage in a so-called "pre-marketing process" the day before the public announcement, contacting the two or three

[8] The listing rules also contain some more detailed requirements that have been incorporated on the basis of past experience. For example, the regulator might decide that in special circumstances the class tests are not sufficiently reliable and impose an alternative test.

[9] The role of the sponsor is regulated and supervised by the FSA. "The sponsors provide assurance to the *FSA* when required that the responsibilities of the *listed company* or *applicant* under the *listing rules* have been met." UKLA Listing rules

largest fund managers in the shareholder register to inform them about the transaction and seeking their informal approval[10].

Although the disclosure requirements for Class 1 and Class 2 acquisitions are the same, the information included in the public announcement for Class 2 is much less detailed than that in Class 1 announcements[11]. The former simply informs the market and the regulator about an executed acquisition; the latter needs to convince shareholders about the merits of executing the transaction. The Class 1 announcement statement includes all the information which will be sent in the following days to the shareholders in the form of a Class 1 circular. In the case of a Class 1 transaction, after the announcement, the PR department of the company is actively engaged in promoting the transaction to the general public to ensure a favourable outcome in the EGM.

3. Data

We obtained deal characteristics of all mergers and acquisitions made by acquirers listed on the Main Market of the London Stock Exchange between 1992 and 2010 from the Securities Data Corporation's (SDC) Mergers and Acquisitions database. We exclude acquirers who belong to the financial industry.[12] We merge this database with accounting information and stock returns of the acquirers from Datastream. From this population we extract a 50% random sample obtaining 5400 transactions. We then apply the following filters: we exclude cases where the deal value of the transaction is not reported by SDC or is less than $1 million and cases where the deal value of the transaction as a percentage of the acquirer's capitalization is smaller than 5%.[13] We obtain a sample of 1702 mergers and acquisitions.

For each of these transactions, we manually collect additional information from Factiva reading the information that the acquirers are obliged to publicly disclose through the Regulatory News Service: a) we record whether the transaction is subject to shareholder approval or not; b)whether the shareholder approval is due to the size of the

[10] The names of the people informed about the transaction by the sponsor are put on an "insider list" which is sent to the FSA.
[11] While usually the statement of the announcement of a Class 2 transaction in RNS is about 20 lines, the equivalent document for Class 1 acquisitions is several pages long.
[12] We exclude acquirers who belong to the 11th industry group according to the 12-industry Fama-French classification code based on the four-digit SIC code.
[13] We effectively exclude Class 3 transactions that are substantially different in the amount of information investors receive and are hardly comparable with the Class 1 transactions that are the focus of the study.

transaction (Class 1) or to the fact that the transaction is with a related party or the company is issuing a significant amount of shares for which it needs the approval of the shareholders; c) for the transactions subject to the shareholder vote, we record the date of the Extraordinary General Meeting and the outcome of the vote, d) we record whether in the day of the announcement of the transaction the company reports interim results potentially constituting confounding information. Moreover, for each acquisition we check whether in the event window other price-sensitive information unrelated to the acquisition is revealed. Finally, we check whether the announcement date reported by SDC is correct, if it is not we collect the correct date of the initial announcement.[14]

For our main results we filter transactions: a) where the acquirer has no stock returns data on Datastream or there is no information in the Regulatory News Service about the acquisition (79 cases), b) where the shareholder approval is due to the share issuance[15] or the identity of the buyer (related party) instead of a Class 1 test (54), c) where the transaction is not completed (186 cases), d) where on the same day of the announcement of the transaction there is the release of the interim results on the Regulatory News Service (274 cases). In the final sample we have 1109 transactions.

Summary statistics of our sample acquisitions by announcement year are reported in Table 1. Starting in 1992, the number of acquisitions increases each year until it reaches its peak in 1998 and then drops. Masulis et al. (2007) report a very similar trend for the US. In this table we also split the number of acquisitions for each year into Class 1 and Class 2 transactions. The total number of Class 1 acquisitions is 332, amounting to 29.9% of our sample.

[Table 1 about here]

In Table 2 we focus on the Class 1 transactions. We report the percentages of completed, withdrawn and other non completed deals (not because of voluntary withdrawal). Around 5 % of the deals are pulled after their public announcement. We also split the completed deals according to the timing of the shareholder vote: in 66% of the cases the EGM date is within one month of the public announcement.

[14] We found that the announcement dates reported by SDC were wrong in 9.8% of the cases.
[15] We exclude these cases (30 acquisitions) because here the shareholder voting is not mandatory (thus exogenous) as in a Class 1 but endogenous, it comes from the choice of the acquirer to issue a substantial amount of new shares to obtain additional finding to fund the acquisition.

[Table 2 about here]

4. Empirical Strategy

This first question that we address is whether shareholders employ the Class 1 governance facility to accept or reject the transactions that they are asked to vote on. We find that in 100% of the Class 1 acquisitions in our sample the shareholders approve the proposal of the management in the EGM. One possible interpretation of this evidence is that shareholder voting, even when mandatory, is largely irrelevant because of shareholders inertia. That is, shareholders vote in favor of management proposals even when they have the opportunity to dissent, due to either free riding or conflict of interest. The alternative possibility is that shareholder voting matters, not because it helps reject poor acquisitions, but because poor acquisitions never reach the stage of being rejected at the EGM. Managers who do not want to risk the shame of a negative vote at the EGM only propose acquisitions that they expect to be considered by the shareholders as value maximizing. In this view, it is not the actual vote but the mere possibility of shareholder voting that makes sure that poor acquisitions are not pursued. Furthermore, managers can also withdraw their proposal after the announcement and before the EGM if the proposal is badly received by the market. To shed light on these alternative possibilities in the next section we compare the performance of transactions that are subject to shareholder approval with those that are not.

4.1 Baseline univariate and multivariate comparison between Class 1 and Class 2 acquisitions

We measure the performance of an acquisition for the acquirer by calculating the cumulative abnormal returns (CARs) in the share price of the acquirer around the announcement of the transaction. Abnormal returns are calculated by subtracting the returns on the FTSE index from the raw return of the firm's equity. We compute 3-day cumulative CARs during the window encompassed by event days (-1, +1), where day 0 is the acquisition announcement date.

In Table 3 we compare the announcement returns of Class 1 and Class 2 transactions. We observe that the returns generated by Class 1 acquisitions are significantly larger than those in acquisitions not subject to shareholder approval. The tests for differences in means and medians confirm that the difference is statistically significant. This result holds also if we winsorize the CARs at 1%, if we enlarge the event window to (-2, +2) or if we include the cases that we filtered out because of the release of confounding information in the (-1,1) announcement window. [16]

Moreover, we follow the approach of Malatesta (1983) and Moeller et al. (2002) to assess the economic significance of these results. Looking at CARs we give equal weights to companies with very different capitalizations. If we want to consider the economic impact of these transactions we need to look at the dollar amounts created or destroyed by the acquiring firms. We multiply the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns obtained in the three days around announcement. We find that while Class 2 deals are associated with destruction of value, Class 1 deals create value. The average dollar abnormal returns (in 2011 dollars) is -3.87 million dollars for Class 2 and +41.19 million dollars for Class 1. The aggregate value creation by Class 1 deals is 13.6 billion dollars, and the aggregate value destruction by Class 2 deals is 3 billion dollars.

[Table 3 about here]

The univariate comparison of CARs in Class 1 and Class2 could still reflect the fact that Class 1 transactions are correlated with other determinants of acquirer returns. We begin by considering observable acquirer and deal characteristics, such as the target listing status or the method of payment, which previous research has shown to have explanatory power in the analysis of acquirer returns. We consider the methods of payment, the target listing condition (either public, private or subsidiary), the deal status (merger vs. acquisition, hostile vs. friendly, diversifying vs. non diversifying and cross border vs. UK target), the relative size of the deal value with respect to the capitalization of the acquirer, the level of M&A activity in the industry of the acquirer in the year of the acquisition. As for the acquirer characteristics we consider the size of

[16] The 30 acquisitions subject to shareholder approval not because of the Class 1 tests but because of the issue of a substantial amount of new shares are associated with a mean CAR of 1.5 and a median CAR of 1.6.

the bidder, the leverage ratio, the free cash flow and the Tobin's Q. Definitions of the variables are reported in the appendix. Descriptive statistics are summarized in Table 4.

[Table 4 about here]

In Table 5 we report the comparison between Class 1 and Class 2 transactions in the above variables. We find that companies making Class 1 and Class 2 transactions are very similar in terms of size, free cash flow and leverage ratio but they differ in their level of Tobin Q. Companies making Class 1 transaction have a significantly higher level of Tobin Q . This evidence suggests a screening effect of the Class 1 rule. Relatively better performing managers make more Class 1 transactions, confident in the support of their shareholders. The deal characteristics of the two groups of transactions are quite different: Class 1 transactions are associated with more hostile deals, more stock-financed deals, more UK targets, more public and less private targets, more mergers, in industries with less takeover activity.

[Table 5 about here]

We extend the univariate analysis of announcement returns of Table 3 to a multivariate setting where we can control for the above acquirer and deal characteristics. In Table 6 we report the results of OLS regressions with standard errors clustered by acquirers. The dependent variable is the CAR in the event window (-1, +1). In model 1 we use as independent variable only the dummy variable Class 1. In model 2 we control for deal characteristics and in model 3 we control also for acquirer characteristics. Not only controlling for the differences documented in Table 5 does not cancel the significant effect associated with the Class 1 that we find in the univariate analysis of Table 3, but the coefficient of the Class 1 dummy increases significantly. Ceteris paribus, if a transaction is subject to shareholder approval the returns to the acquirer are almost 2.5% larger than those of Class 2 transactions.

With respect to the control variables, we find that acquiring a public target and going hostile produce significantly lower returns. The other controls have signs which are consistent with previous studies (e.g., Moeller, Schlingemann, Stulz. (2005) but

most of them are not significantly different from zero. For instance, being large and paying with stock are associated with lower returns.

In Panel B of Table 6 we show that the main result that Class 1 deals outperform Class 2 deals holds in four subsamples: 1) deals where the size of the acquirer is in the bottom quartile of the distribution, 2) deals where the size of the acquirer is in the top quartile of the distribution, 3) deals where the target is a private company, 4) deals where the mean of payment is only cash.

Also in the multivariate framework, results are statistically and economically very similar if we winsorize the CARs at 1%, if we enlarge the event window to (-2, +2) or if we include the cases that we filtered out because of the release of confounding information in the (-1,1) event window.

[Table 6 about here]

4.2 Identification strategies- addressing endogeneity

The advantage of the U.K. institutional setting in studying the effectiveness of shareholder voting on the value creation of acquisitions is the mandatory nature of the shareholder approval. In the US, if managers do not want to face shareholders approval they can structure the transaction in such a way to avoid it. In the U.K. the listing rules impose that relative large transactions (due to the class tests) are classified as Class 1 and subject to shareholder vote. While shareholder voting is not a choice variable for large transactions, it can be argued that using the variable Class 1 we are simply comparing large vs. small relative size transactions: it is a relative size effect that we are capturing instead of the effect of the mandatory shareholder voting.

A first objection to this criticism is that in the literature the relative size of a transaction is not clearly associated with higher returns. Relative size is positive in Asquith, Bruner, and Mullins (1983) but negative in Travlos (1987). In Moeller Schlingemann and Stulz (2005) it is positive for the subsample of small acquirers and it is negative for the subsample of large acquirers. It is insignificant in Masulis, Wang and Xie (2007). Moreover, in our regressions the variable Class 1 is highly significant even

when we control for the variable relative size which in our sample has a negative sign but it is statistically non significant.

More subtly, it could still be that our results still reflect endogeneity, in the sense that some characteristics may still correlate with both relative size (and the Class 1 status) and with performance. To address the concern that we are capturing a relative size effect, we adopt two identification strategies. First, in Section 4.2.1 we address the possibility that Class 1 and Class 2 transactions differ in terms of some observable variables, and we perform several versions of a non-parametric Propensity Score Matching approach. Second, in Section 4.2.2 we address the possibility that Class 1 and Class 2 transactions differ in terms of some non-observable characteristics, and we use the U.K. threshold rules to generate exogenous variation in shareholder voting by applying a multivariate Regression Discontinuity Design.

4.2.1 Propensity Score Matching

In this section we address the possibility that our results are driven by observable variables that affect both Class 1 status and performance, and we apply several versions of a non-parametric Propensity Score Matching method. The idea is to estimate the counterfactual outcomes of individuals by using the outcomes from a subsample of "similar" subjects from the control group, whereby "similar" is defined in terms of observable characteristics (Imbens (2004)). In our case we want to compare the Class 1 transactions with the closest Class 2 transactions according to the variables that we are able to observe. Relative to the multivariate results of Table 6, the Propensity Score Matching method allows to relax the assumption of linearity in the relationship between shareholder voting and M&A performance. We estimate the propensity score as the probability of being a Class 1 transaction conditional on the covariates through a Logit regression. The list of covariates that we include are: Relative size, Stock, Public, Hostile, Industry activity, Diversifying, Firm size, Tobin Q, Free cash flow, Leverage ratio. The balancing property, by which observations with the same propensity score have the same distribution of observable covariates independently of treatment status, is satisfied. We then estimate the Average Treatment Effects for the treated (Class 1) transactions given the propensity score using different matching techniques (Kernel, Radious and Neighbor matching). The results in Table 7 strongly confirm our results:

transactions which are subject to shareholder approval are associated with significantly higher returns.

[Table 7 about here]

4.2.2 Small bands analysis and Multidimensional Regression Discontinuity Design (MRDD)

In this section we address the possibility that our results are driven by differences in unobservable characteristics, such as for example a deal's growth opportunities. If deals with higher relative size have also better growth opportunities, then by comparing Class 1 and Class 2 transactions we may be picking up the effect of growth opportunities rather than the effect of shareholder voting.

We perform this analysis in two steps. In Table 8 we restrict the sample to a subset of transactions which are similar in terms of relative size. We keep only large Class 2 transactions (with a relative size bigger than 15%) and small Class 1 transactions (with a relative size smaller than 35%). Both in the univariate and multivariate analysis we find that the Class 1 transactions produce significantly higher returns. In fact, the economic significance of the variable Class 1 increases in this small band analysis.

[Table 8 about here]

Furthermore, we perform a number of exercises to make sure that different ways to compute the variable relative size do not drive our results. So far, the variable relative size is calculated as the deal value divided by the market capitalization of the acquirer at the year end before the acquisition. Our results, both in the univariate and multivariate analysis, are statistically and economically very similar if: we calculate the relative size using the market capitalization the day before the announcement, or if we take a linear combination of the two, we change the definition of the small bands and we include only transactions smaller than 35% of relative size, we winsorize the CARs at 1%,; we enlarge the event window to (-2,+2); we include the cases that we filtered out because of the the release of confounding information in the (-1,1) event window. Also in the

small bands sample, Class 2 are associated with value destruction and Class 1 with value creation. The average dollar abnormal returns (in 2011 dollars) is -9.71 million dollars for Class 2 and +33.47 million dollars for Class 1.

Next, we push the logic of the small bands analysis further, and we perform a version of the fuzzy Multidimensional RDD. Essentially, what we do in the small bands analysis is to restrict the sample to observations around the threshold of the class test of relative size excluding small Class 2 and large Class 1, finding a much stronger effect. Ideally, we would like to push this logic to a very narrow band, say (25%–ε, 25%+ε), and compute the limit for ε→0. This is the identification strategy behind the Regression Discontinuity Design (RDD) approach (e.g., Roberts and Whited (2011)). In our cases, we have four assignment variables instead of one. , hence we need to extend the usual RDD approach and perform a Multidimensional RDD design. In fact, as mentioned in Section 2, the multi-dimensional threshold rule impacts the likelihood of shareholder voting around a relative size threshold of 25%. Transactions in which the size of the target is above 25% of the acquirer's size are classified as Class 1 and subject to shareholder voting. Relative size is defined as one of four variables, that is, the ratio of total assets, the ratio of profits, the consideration offered as a proportion of the market capitalization of the acquirer, and the ratio of 'gross capital'. If any of these four ratios exceeds 25%, the transaction is classified as Class 1 and subject to shareholder approval. To summarize, a proposed transaction is assigned to be "Class 1", i.e. needs by regulation to be subject to shareholder voting, if the following is true:

$$Class\ 1 = Class\ 1(x) = \begin{cases} 1\ if\ x_1\ \geq {x_1}'\,|x_2\ \geq {x_2}'\,|x_3\ \geq {x_3}'\,|x_4\ \geq {x_4}' \\ 0\ otherwise \end{cases}$$

Where Class 1=1 indicates a "Class 1" transaction; x_1, x_2, x_3, x_4 are the relevant variables for assignment to the "Class 1" bin corresponding to the 4 class tests, namely relative size, relative profits, relative asset and relative gross capital; and 25% is the threshold for each of the test. Unfortunately, current data availability on items x_2, x_3, x_4 implies that sample size for which we observe all four variables shrinks substantially (249 transactions).

The MRDD design is relatively new and a recent literature has been developing alternative implementation strategies, and little guidance currently exists on the relative

performance of different MRDD methods. One challenge for empiricists is that with multiple assignment variables the curse of dimensionality becomes an issue very quickly (Reardon and Robinson (2012), Wong, Steiner and Cook (2013)). Here, we implement a version of the MRDD defined as *Binding-Score Regression Discontinuity* by (Reardon and Robinson (2012). Since our multiple class tests determine the assignment to only two treatment conditions (Class 1 and Class 2), we can construct a new assignment variable that alone determines the treatment assignment. We construct a new variable M, defined as the maximum of the four assignment variables corresponding to the Class tests (where each variable is first centered around its threshold of 25%):

$$M=\max(R_1, R_2, R_3, R_4)$$

M is a continuous, observable variable, defined so that Class 1=1 if M≥0 and Class 1=0 if M<0. Given M, we can use single assignment variables regression discontinuity methods to estimate the effect of the treatment for those values of M≈0 (those whose the highest relative size thresholds among the four is at the margin of passing). However, M does not perfectly determine the treatment assignment: 11% of the transactions are misclassified.[17] This could be to errors in measuring the assignment variables or to cases where, as the listing rules say, the FSA uses different ratios in cases of anomalous results in the 4 class tests to establish whether the transaction requires shareholder approval. For this reason, we need to apply a fuzzy version of the RDD which exploits a discontinuity in the probability of treatment at the cutoff M=0. In this research design, the discontinuity becomes an instrumental variable for treatment status instead of deterministically switching treatment on and off (Angrist and Pischke (2008)). In the nonparametric version of a fuzzy RD, the Local Average Treatment Effect is obtained calculating a Wald estimator: the ratio between the jump in the performance and the jump in probability of treatment at the cutoff M=0. We restrict the sample to transactions between M=-15 and M=15.

The three top panels in Figure 2 show that around M=0 there is a large jump in the probability that a given deal is assigned to Class 1 status, for various bandwidth choices, and as shown in Table 9, the effect is statistically significant.

[17] We have 17 transactions where M≥0 but the transaction is a Class 2 and 12 transactions where M<0 but the transaction is a Class 1.

Furthermore, in the three bottom panels in Figure 2 we find that there is indeed a positive jump in outcome around M=0, so that Class 1 deals have higher CARs than Class 2 deals. As we see in Table 9, this is also statistically significant, at least in the baseline model without covariates.

We conclude the analysis by computing the Local Wald Estimator, that is, the ratio of the jump in outcomes to the jump in probability of Class 1 treatment, and we find that also the Wald estimator is statistically significant. To conclude, our results so far confirm that, even applying a fuzzy MRDD design that controls for the impact of unobservable characteristic, we find that Class 1 deals outperform Class 2 deals, and this occurs precisely in a neighborhood of the assignment threshold. Work is ongoing to extend the sample of the MRDD analysis, and to test for the possibility that managers and boards might attempt to 'game' the threshold, which would again imply that our results are contaminated by some endogeneity.

[Table 9 about here]

4.3 Does the Class 1 rule stop poorly received acquisitions?

We have shown that the average abnormal announcement returns for Class 1 transactions subject to shareholder voting is higher than for Class 2 transactions that are only subject to notification requirements also when explicitly controlling for observable and non-observable characteristics.

One natural interpretation of our findings is that the really bad acquisitions never reach a formal vote at the EGM, as they are withdrawn or otherwise abandoned prior to a vote. In fact, the listing rules force the acquirer to make a Class 1 deal conditional on shareholder approval. As a result the acquirer's management and board can withdraw from the transaction at any time, if they believe that shareholder approval will not be forthcoming. A large negative reaction upon announcement of a transaction sends a strong signal and management should be worried that shareholder might reject the transaction at the EGM vote.

Consistent with this conjecture, we find that among the group of Class 1 transactions that are badly received (CAR smaller than -3%) 14.5% of the cases are withdrawn by the management. On the contrary only 1 out of 108 badly perceived

Class 2 transactions (0.009%) is withdrawn. Another way of looking at this is to look at the population of withdrawn cases in Class 1 and Class 2 transactions. We would expect the announcement returns of Class 1 cases which are subsequently withdrawn to be highly negative. In our database we have 22 withdrawn Class 1 transactions which are indeed characterized by very negative returns: the average return is -1.7%[18] and the 25th percentile is -6.1%. As we show in Table 10 these returns are much lower than the ones obtained in the nine Class 2 withdrawn cases. The sample of the acquisitions which are publicly announced and subsequently withdrawn is small in our database but this still constitutes relevant anecdotal evidence.

[Table 10 about here]

The findings in Table 10 are consistent with the interpretation that there is a deterrence effect of shareholder voting on bad M&A deals. It is the mere possibility of facing a negative vote at the EGM that leads CEOs and board to give up on bad deals prior to a formal vote. This deterrence effect explains why Class 1 deals significantly outperform Class 2 deals, and also explains why all deals that do reach a shareholder vote are approved by the shareholders: the only deals that reach shareholder vote are those that the shareholders are likely to consider in their best interest.

Our findings, however, do not imply that all Class 1 transactions are necessarily well received by the market on the day of announcement. In fact, we find that there are 42 completed Class 1 that obtain a market reaction smaller than -3% at the announcement. This is an apparent contradiction of the deterrence effect of the Class 1 voting requirement. Why would shareholders raise their hand in favor of a transaction at an extraordinary meeting that they voted down "with their feet" a few days or months before by selling their shares? One explanation could be that in the period between the announcement and the EGM the market obtains positive information about the transaction, there are stock purchases and by the time of the EGM the poor initial reaction is reversed

Once a Class 1 transaction has been announced a detailed circular is sent to the shareholders. The acquirer's management is also free to use its own investor relations department and/or a financial communications firm to put the case for the proposed

[18] T- statistic is -1.33.

transaction to its shareholders and the market. If successful the poor initial market reaction should reverse.

We calculate the Buy-and-Hold returns from one day before the announcement to one day before the EGM. We find that in 38% of these cases the market reaction is reversed in the time between the announcement and the EGM.

However, we still observe 26 Class 1 acquisitions which get shareholder approval despite a persistent market reaction below -3%. This number is quite small, as it represents only 2.3% of all the transactions in the our database and could be due to the existence of a controlling owner that does not need the support of other shareholders to conclude the deal or to disagreements between different groups of shareholders about the likely long term outcome of the transaction.

4.4 Comparison with the US

In the last section we try to establish the impact of mandatory shareholder voting looking at a different counterfactual. We look at the US where the ownership structure of listed companies is similar to the UK, in terms of the prevalence of widely-held corporations, but shareholder voting in acquisition is not mandatory. We want to investigate the performance of deals with a relative size (defined as deal value divided by the market capitalization of the acquirer) larger than 25% and the difference in performance between acquisitions greater and smaller than 25%. There are many institutional differences between the two countries (in terms of disclosure threshold, break-up fees, rate of public auction) which make the comparison between the returns to acquisitions in the UK and in the US not very instructive. However, the exercise that we do in this section is in the spirit of differences-in-differences analysis. We are interested in the difference between greater and smaller than 25% relative size acquisitions in the US and in seeing how this compares to the difference in the UK so systematic differences across countries do not affect our exercise.

As we do for the UK, we obtain deal characteristics of all mergers and acquisitions made by acquirers listed in the US between 1992 and 2010 from the Securities Data Corporation's (SDC) Mergers and Acquisitions database. We exclude acquirers who belong to the financial industry. We merge this database with accounting information from Compustat and stock returns of the acquirers from CRSP. We then

apply the same filters we apply for the UK sample: we exclude cases where the deal value of the transaction is not reported by SDC or is less than $1 million and cases where the deal value of the transaction as a percentage of the acquirer's capitalization is smaller than 5%. If we consider only completed acquisitions we are left with a sample of 10824 transactions.

We first look at CARs in the three days window around the announcement of the acquisition (Panel A of Table 11). In the same spirit of Table 6 we regress the CARs on a dummy variable which is equal to 1 if the transaction has a relative size larger than 25% plus the full set of controls. We find that the dummy variable is positive and highly significant. One may conclude here that also in the US, where there is no law imposing the requirement of shareholder approval after 25%, transactions larger than 25% are in fact value increasing. Maybe, when a proposed acquisition passes this threshold it attracts more media or shareholder pressure and, for this reason, bad transactions do not go through. In what follows, we check whether this is the case. In column 2, we restrict the sample to transactions larger than 15% and smaller than 35%, in the same spirit of the small bands analysis that we perform for the UK: the dummy variable larger than 25% is now not significant anymore and it also changes sign. In column 3, we go back to the full sample but we change the definition of the dummy variable, now it gets the value of 1 if the transaction is larger than 100% threshold. In this case the dummy variable is again highly significant and is almost double the size of the dummy at the 25% threshold. The evidence in column 2 and 3 suggests that, in the US, the threshold 25% is not associated to any specific change of pattern in terms of quality of deals and only deals with a very large relative size, larger than 100%, attract larger abnormal returns.

Finally, we turn the attention to the abnormal dollar returns in the three days window around the announcement. Moeller and Schlingemann, Stulz (2005) report that in the US, from 1980 to 2001, the average dollar abnormal return over the event window (-1, 1) is - 25.2 million dollars (in 2001 dollars). Here, we compare the average wealth creation/destruction for transactions of relative size below and after 25%. We find that, also for the time period 1992-2011, acquisitions in the US are, on average, associated with destruction of value but, more remarkably, the average destruction of wealth for transactions larger than 25% is almost six times larger than the one associated with smaller transactions (-$58 vs. -$10 millions in 2011 dollars). The same

pattern is also present if we look at small bands: transactions between 35% and 25% destroy twice as much wealth in comparison with transactions between 25% and 15%. The comparison of these results with the UK, where Class 2 transactions perform worse than Class 1 and Class 1 are actually associated with creation of wealth, strengthens the case in favour of a positive effect of mandatory shareholder voting in preventing wealth destruction in acquisitions.

[Table 11 about here]

5. Conclusions

Empire-building, self-dealing or overconfident managers can make acquisitions that destroy value for the acquiring shareholders. We study the effectiveness of shareholder voting as a corporate governance mechanism to prevent poor acquisitions. Empirical studies of this issue face the challenge of appropriately dealing with the endogenous nature of requiring shareholder approval. We meet this challenge by focusing on the U.K. setting, whereby M&A transactions whose assets exceed certain size thresholds are mandated to be subject to shareholder voting.

We find that shareholders in the UK never vote against Class 1 transactions ex post. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. We find that the abnormal announcement returns for Class 1 transaction are positive and significantly larger than those for the smaller Class 2 transactions that are not subject to shareholder vote. The finding is robust to a large set of controls for confounding effects. Remarkably, an application of the Multidimensional Regression Discontinuity research design supports a causal interpretation of our finding. Namely, we generate exogenous variation in shareholder voting in a small neighborhood of the size threshold, and we find that across such threshold there is a significant jump both in the probability of becoming subject to shareholder voting and in the performance of the M&A transactions, thereby supporting a causal interpretation of the positive effect of shareholder voting on acquirers' returns from M&A transactions.

In terms of economic significance, we find that Class 1 transactions are associated with an aggregate gain to acquirer shareholders of $13.6 billion. By way of comparison, U.S. transactions of similar size, which are not subject to shareholder approval, are associated with an aggregate loss of $210 billion for acquirer shareholders; and Class 2 U.K. transactions, also not subject to shareholder approval, are associated with an aggregate loss of $3 billion. Our results therefore indicate that that mandatory shareholder voting generates substantial value improvements for acquiring shareholders.

Our findings raise interesting new questions for future research. In our data, mandatory voting leads management and boards to give up on many transactions that face shareholder disapproval. Yet, in a handful of cases, maybe due to the presence of controlling shareholders or to disagreement among different groups of investors, some poorly received deals still go through. By the same token, one could conjecture that in some instances mandatory voting might prevent some positive-NPV deals to go through. Indeed, at least in principle some 'visionary' CEOs might come up with a brilliant idea for a business combination that investors are just not immediately willing to buy. In our data, this case seems unlikely, as CEOs often have time from the announcement of a deal until the EGM to convince the shareholder base about the value of a proposed acquisition. And we do find that in 16 cases the CAR at the announcement was negative and below -3%, but by the time of the EGM it had completely reversed, and the EGM voted in favor of the deal. More broadly, however, it seems interesting to study the determinants of shareholder voting in EGM on M&A and other proposals. Why might shareholders vote in favor of bad deals, or against good deals? Is the NPV rule the only foundation of shareholder voting behavior? How significant is disagreement among shareholders? These are interesting avenues for future research.

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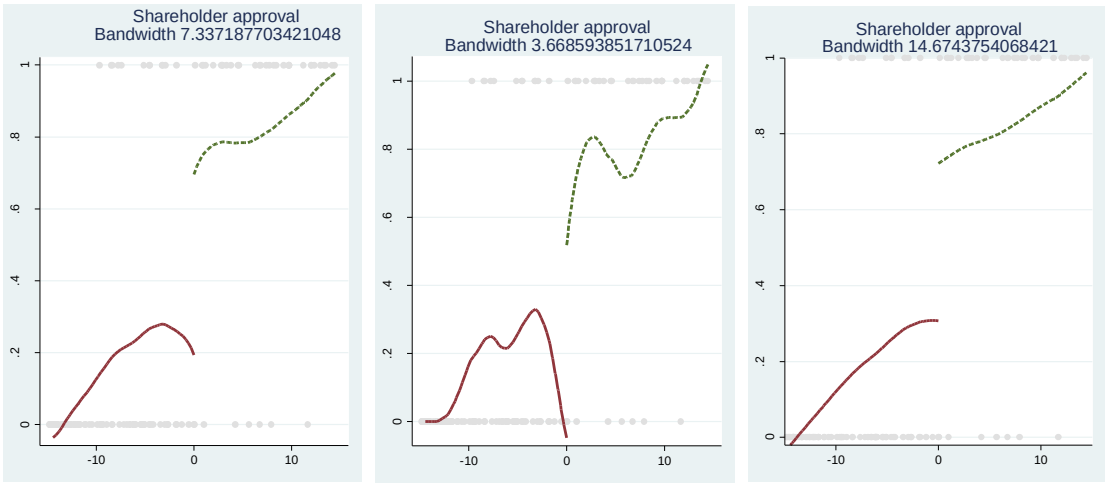
Figure 1. Timeline

Figure 1 describes the time line of a Class 1 acquisition in the UK from the management proposal to the financiers to the EGM vote.

Figure 2. Class 1 and Class 2 Transactions: a fuzzy Multidimensional RDD

Panel A of Figure 2 reports the jump in probability of Class 1 treatment around M=0. M is defined as the maximum of the four assignment variables corresponding to the Class tests (where each variable is first centered around its threshold of 25%). Panel B of Figure 2 reports the CARs in the three days around the announcement around M=0. Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. On the two sides of the cutoff kernel regressions are estimated. The first table uses the optimal bandwidth calculated following Imbens and Kalyanaraman (2009),the second table half the optimal bandwidth and the third table double the optimal bandwidth.

Panel A. Jump in probability of Class 1 treatment around M=0



Panel B. Jump in CARs around M=0

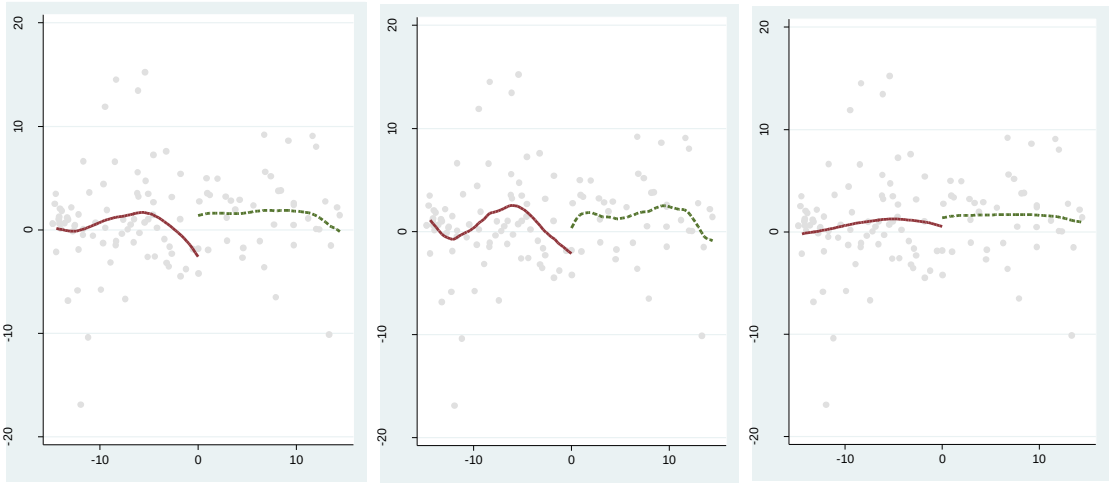


Figure 3. Average Abnormal Dollar Returns to Acquisitions in UK and US

Figure 3 reports average abnormal dollar returns to acquisitions in the US and the UK. Abnormal dollar returns are calculated multiplying the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns obtained in the three days around announcement. We report the values in 2011 dollars. For the UK we distinguish between Class 1 and Class 2 transactions. For the US we distinguish between transactions with a relative size (deal value divided by market capitalization of the acquirer) larger and smaller than 25%

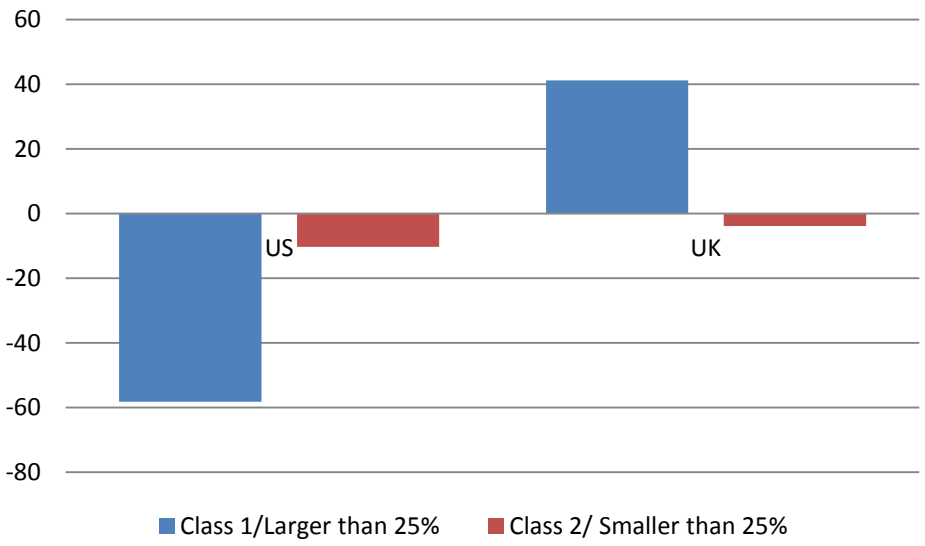


Table 1. Sample distribution by announcement year

The sample consists of 1109 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010.

Year of announcement	Number of transactions	Percentage of the sample	Number of Class 2 transactions	Number of Class 1 transactions	Percentage of Class 1
1992	54	4.9%	39	15	27.8%
1993	62	5.6%	46	16	25.8%
1994	72	6.5%	49	23	31.9%
1995	78	7.0%	51	27	34.6%
1996	83	7.5%	49	34	41.0%
1997	94	8.5%	67	27	28.7%
1998	112	10.1%	74	38	33.9%
1999	104	9.4%	62	42	40.4%
2000	93	8.4%	60	33	35.5%
2001	76	6.9%	59	17	22.4%
2002	38	3.4%	32	6	15.8%
2003	42	3.8%	34	8	19.0%
2004	45	4.1%	31	14	31.1%
2005	37	3.3%	27	10	27.0%
2006	26	2.3%	22	4	15.4%
2007	41	3.7%	32	9	22.0%
2008	28	2.5%	25	3	10.7%
2009	8	0.7%	6	2	25.0%
2010	16	1.4%	12	4	25.0%
Total	1109		777	332	29.9%

Table 2. Sample distribution of Class 1 Transactions

The sample consists of 383 mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010 where there is no confounding information released in the announcement window.

	Number	Percentage
Class 1 Transactions		
Completed deals	332	86.7%
Withdrawn deals	20	5.2%
Other	31	8.1%
Tot.	383	
Class 1 Completed Transactions		
EGM date within 1 month of announcement	221	66.6%
EGM date between1 month and 6 months	101	30.4%
EGM dated after 6 months	10	3.0%
Tot.	332	

Table 3. Differences in Announcement Abnormal Returns between Class 1 and Class 2 Transactions

This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We report also inflation-adjusted (base 2011) dollar returns in millions obtained multiplying the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns in the three days around the announcement. We split the sample between Class 1 and Class 2 transactions. We report also the results: in the (-2,2) event window; in the (-1,1) event window but including cases that we filter out because of confunding information; the (-1,1) event window but after a winsorization at 1%. We report T-statistics for the difference of the means and the Wilcoxon signed-rank z-statistics for the difference of the medians. *, ** and *** denote significance at .10, .05 and .01 levels, respectively.

Differences in Announcement Abnormal Returns					
		Class 1 transactions (1)	Class 2 transactions (2)	Difference (1)-(2)	t/z statistic for the tests of difference
CAR (-1,+1)	Mean	2.53	0.79	1.74	4.93***
	Median	1.60	0.46	1.14	4.05***
Dollar Returns in Millions	Mean	$41.19	-$3.87		
	Tot.	*$13,632*	*-$2,958*		
	N. of observations	332	777		
Robustness					
CAR (-2,+2)	Mean	2.66	1.05	1.61	3.60***
	Median	2.00	0.35	1.65	3.93***
	N. of observations	332	777		
CAR (-1,+1) including cases with confunding information	Mean	2.05	0.96	1.09	2.88***
	Median	1.10	0.51	0.59	2.64***
	N. of observations	446	937		
CAR (-1,+1) after winsorization	Mean	2.46	0.82	1.64	4.93***
	Median	1.60	0.46	1.14	4.05***
	N. of observations	332	777		

Table 4. Summary statistics of control variables

The sample consists of 1109 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. The dependent variable is the cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is the book value of the total assets. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets. Relative size is calculated as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Relative gross assets is calculated as Total assets of the target divided by total assets of the acquirer. Relative profits is calculated as Pre tax income of the target divided by pre tax income of the acquirer. Relative gross capital is calculated as (Deal value plus liabilities of the target) divided by (market capitalization of the acquirer plus liabilities of the acquirer).

Variable	N. of observations	Mean	Standard Deviation	Q25	Median	Q75
Deal characteristics						
Stock	1109	0.22	0.41	0	0	0
All cash	1109	0.46	0.49	0	0	1
Private	1109	0.55	0.49	0	1	1
Public	1109	0.12	0.33	0	0	0
Hostile	1109	0.01	0.07	0	0	0
Industry activity	1109	26.13	50.69	4	10	22
Cross border	1109	0.36	0.48	0	0	1
Merger	1109	0.39	0.49	0	0	1
Diversifying	1109	0.35	0.47	0	0	1
Acquirer characteristics						
Firm size (millions $)	990	1143.34	4377.48	64.90	166.88	584.57
Tobin's q	969	1.79	1.22	1.13	1.46	1.99
Free cash flow	959	-0.01	0.09	-.04	-.00	0.03
Leverage ratio	965	0.14	0.12	0.05	0.13	0.21
Class 1 Ratios						
Relative size	971	22.98	36.59	7.71	12.45	24.36
Relative Gross Assets	276	61.61	410.70	4.54	12.48	27.68
Relative Profits	419	-196.70	3441.70	2.08	10.26	28.79
Relative Gross Capital	265	58.44	281.70	10.34	19.59	41.95

Table 5. Differences in Acquirer and Deal Characteristics between Class 1 and Class 2 Transactions

The sample consists of 1109 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. We split the sample in Class 1 and Class 2 transactions.The dependent variable is the cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is the book value of the total assets. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets. Relative size is calculated as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Relative gross assets is calculated as Total assets of the target divided by total assets of the acquirer. Relative profits is calculated as Pre tax income of the target divided by pre tax income of the acquirer. Relative gross capital is calculated as (Deal value plus liabilities of the target) divided by (market capitalization of the acquirer plus liabilities of the acquirer).
*, ** and *** denote significance at .10, .05 and .01 levels, respectively.

	Class 2		Class 1			
	Mean	Median	Mean	Median	Diff.	
			Deal characteristics			
Stock	0.02	0.00	0.09	0.00	-0.07***	(-5.27)
All cash	0.50	1.00	0.35	0.00	0.16***	(4.79)
Private	0.61	1.00	0.42	0.00	0.19***	(5.87)
Public	0.06	0.00	0.27	0.00	-0.21***	(-10.30)
Hostile	0.00	0.00	0.02	0.00	-0.02***	(-3.44)
Industry activity	28.60	11.00	20.35	8.00	8.25**	(2.49)
Cross border	0.37	0.00	0.33	0.00	0.04	(1.39)
Merger	0.32	0.00	0.58	1.00	-0.26***	(-8.27)
Diversifying	0.35	0.00	0.35	0.00	0	(0.16)
			Acquirer characteristics			
Firm size (millions $)	1033.18	168.95	1373.98	159.62	-340.79	(-1.15)
Tobin Q	1.72	1.44	1.95	1.55	-0.23***	(-2.75)
Free CF	-0.01	-0.00	-0.02	0.00	0	(0.68)
Leverage ratio	0.14	0.13	0.15	0.12	0	(-0.36)
			Class 1 Ratios			
Relative size	11.59	9.16	46.49	33.17	-34.90***	(-15.58)
Relative Gross Assets	54.41	5.66	69.12	24.90	-14.71	(-0.30)
Relative Profits	-37.54	6.00	-414.35	27.79	376.81	(1.11)
Relative Gross Capital	48.58	10.45	68.38	40.66	-19.80	(-0.57)

Table 6. Multivariate analysis of acquirer returns

The sample consists of 1109 completed mergers and acquisitions (listed in SDC) made by acquirers listed on the Main Market of the LSE between 1992 and 2010.This table reports the results of OLS regressions with standard errors clustered by acquirer. The dependent variable is the CAR in the event window (-1, +1). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Relative size is calculates as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is the log of the total assets. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets. All three models include year and industry fixed effects. In model 1 we use as an independent variable only the dummy variable *Class 1*. In model 2 we control for deal characteristics. In model 3 we control also for acquirer characteristics. In Panel B we look at four subsamples: 1) deals where the size of the acquirer is in the bottom quartile of the distribution, 2) deals where the size of the acquirer is in the top quartile of the distribution, 3) deals where the target is a private company, 4) deals where the mean of payment is only cash. T-statistics are in parenthesis. *, ** and *** denote significance at .10, .05 and .01 levels, respectively

Panel A. Full Sample

	Dependent variables CAR		
	(1)	(2)	(3)
Class 1	1.804***	2.406***	2.479***
	(4.71)	(5.60)	(5.61)
Relative size		-0.006	-0.007
		(-1.24)	(-1.20)
Stock		-0.403	-0.322
		(-0.74)	(-0.57)
All cash		-0.186	-0.120
		(-0.50)	(-0.32)
Private		0.176	0.138
		(0.51)	(0.39)
Public		-1.513**	-1.505**
		(-2.25)	(-2.09)
Hostile		-4.202**	-4.019**
		(-2.19)	(-2.02)
Industry activity		-0.000	0.000
		(-0.09)	(0.00)
Cross border		0.237	0.295
		(0.65)	(0.78)
Merger		-0.584	-0.504
		(-1.49)	(-1.25)
Diversifying		0.521	0.531

		(1.35)	(1.33)
Firm size			-0.173
			(-1.18)
Tobin's q			0.114
			(0.54)
Free cash flow			1.716
			(0.80)
Leverage ratio			-0.311
			(-0.19)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Constant	-0.318	-0.365	1.596
	(-0.41)	(-0.44)	(0.78)
N	1109	971	941
R-sq	0.066	0.100	0.110

Panel B. Subsamples

	Dependent variables CAR			
	Acquirer Bottom Size Quartile (1)	Acquirer Top Size Quartile (2)	Private Targets (3)	All-cash Deals (4)
Class 1	2.259*	1.981**	2.358***	1.733***
	(1.98)	(2.08)	(3.43)	(2.63)
Deal controls	Yes	Yes	Yes	Yes
Acquirer controls	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
N	185	264	502	430
R-sq	0.238	0.250	0.118	0.169

Table 7. Class 1 and Class 2 Transactions: a Propensity Score Matching

The sample consists of 1109 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. This dependent variable is the cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). This table reports the Average Treatment Effects for the Treated where the treatment is being a Class 1 transaction. We use three different matching techniques: Radious matching method, Kernel matching method and Nearest Neighbor matching method. The standard errors are bootstrapped (1000 replicates).

Method	N. of treated (Class 1)	N. of control (Class 2)	ATT	Standard error	t-statistic
Radious	299	637	1.56	0.43	3.58***
Kernel	332	777	1.41	0.62	2.29**
Nearest Neighbor	332	232	1.52	0.62	2.43***

Table 8. Class 1 and Class 2 Transactions in Small Bands

In this table the sample includes only large Class 2 transactions (with a relative size bigger than 15 %) and small Class 1 transactions (with a relative size smaller than 35%). Panel A reports the univariate analysis. This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We report T-statistics for the difference of the means and the Wilcoxon signed-rank z-statistics for the difference of the medians. We report also inflation-adjusted (base 2011) dollar returns in millions obtained multiplying the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns in the three days around the announcement. Panel B reports the multivariate analysis (OLS regressions with standard errors clustered by acquirer). The dependent variable is the CAR. All the three models include year and industry fixed effects. In model 1 we use as an independent variable only the dummy variable *Class 1*. In model 2 we control for deal characteristics. In model 3 we control also for acquirer characteristics. The control variables are the same as the ones used in Table 5. T-statistics are in parenthesis. *,** and *** denote significance at .10, .05 and .01 levels, respectively

Panel A. Univariate Analysis

Differences in Announcement Abnormal Returns in Small Bands					
		Small Class 1 transactions (1)	Large Class 2 transactions (2)	Difference (1)-(2)	t/z statistic for the tests of difference
CAR (-1,+1)	Mean	2.98	0.76	2.07	3.33***
	Median	2.60	0.54	2.06	2.83***
Dollar Returns in Millions	Mean	$33.47	-$9.71		
	Tot.	*$5,858*	*-$1,164*		
	N. of observations	175	120		

Panel B. Multivariate Analysis

	Dependent variables CAR		
	(1)	(2)	(3)
Class 1	2.469***	3.420***	3.746***
	(3.42)	(4.60)	(4.53)
Deal controls	No	Yes	Yes
Acquirer controls	No	No	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	295	295	284
R-sq	0.120	0.216	0.244

Table 9. Class 1 and Class 2 Transactions: a Fuzzy Multidimensional RDD

Table 9 reports estimates of the jump in the CARs in the three days around the announcement, jump in probability of Class 1 treatment around M=0 and the ratio of the two. M is defined as the maximum of the four assignment variables corresponding to the Class tests (where each variable is first centered around its threshold of 25%). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. On the two sides of the cutoff kernel regressions are estimated. Estimates are based on the use of the optimal bandwidth calculated following Imbens and Kalyanaraman (2009). Model 2 controls for covariates (Firm Size, Hostile, Industry activity, Cross border, TobinQ, FreeCF, Leverage ratio, All stock, All cash, Private, Public, Merger Diversifying). The subsample is restricted to transactions with M between -15% and 15%.

		No Covariates (1)		Including Covariates (2)	
		Coef.	t-statistic	Coef.	t-statistic
Optimal Bandwidth= 7.34 -15< M <15	Jump in outcome (CAR)	3.96	2.00**	2.95	1.59
	Jump in probability of treatment (Class 1)	0.50	1.92*	0.62	5.86***
	Ratio (Local Wald Estimator)	7.90	1.95*	4.73	1.65*
	N	117		117	

Table 10 Announcement Abnormal Returns of Withdrawn Transactions

This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition of transactions which are publicly announced and subsequently withdrawn. Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We split the sample between Class 1 and Class 2 transactions.

Differences in Announcement Abnormal Returns of Withdrawn Cases					
	N. of observations	Mean	Median	25th Percentile	5th Percentile
Class 2	9	-0.76	0.36	-1.2	-3.9
Class 1	20	-1.7	-1	-6.1	-11.9

Table 11. Comparison with the US

The sample consists of 8299 completed mergers and acquisitions (listed in SDC) made by acquirers listed on US stock exchanges between 1992 and 2010.Panel A reports the results of OLS regressions with standard errors clustered by acquirer. The dependent variable is the CAR in the event window (-1, +1). Abnormal returns are calculated by subtracting the S&P index from the raw return of the firm's equity. The three models control for Deal characteristics, Acquirer characteristics. All three models include year and industry fixed effects. In model 1 we use as an independent variable the dummy variable *Transactions with RS > 25%*. RS is relative size and is calculated as the deal value divided by the market capitalization of the acquirer. In model 2 we restrict the sample to transactions with relative size between 15% and 35%. In model 3 we use the full sample but the independent variable is the dummy variable *Transactions with RS > 100%*. T-statistics are in parenthesis. *, ** and *** denote significance at .10, .05 and .01 levels, respectively. Panel B reports abnormal dollar returns. Abnormal dollar returns are calculated multipling the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns obtained in the three days around announcement. We report the values in 2011 dollars. We split the sample in transaction with Relative size larger and smaller than 25%.

Panel A. Abnormal Returns in the US

	Dependent variables CAR		
	All sample	Small bands	All sample
	(1)	(2)	(3)
	1.673***	-0.075	
Transactions with RS > 25%	(5.85)	(-0.08)	
			2.783***
Transactions with RS > 100%			(3.54)
Deal controls	Yes	Yes	Yes
Acquirer controls	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	8299	2308	8299
R-sq	0.046	0.050	0.046

Panel B. Abnormal Dollar Returns in the US

Window		Transactions with RS > 25%	Transactions with RS < 25%
		(1)	(2)
		All sample	
(-1,+1)	Mean	-$58.25	-$10.29
	Tot.	*-$214,114*	*-$65,438*
	N. of observations	3676	6361
		Small bands	
(-1,+1)	Mean	-$44.12	-$23.31
	Tot.	*-$42,932*	*-$41,996*
	N. of observations	973	1780

Appendix

Variable definitions

Variable	Definitions
CAR (-1,+1)	Cumulative abnormal returns, calculated by subtracting the FTSE index from the raw return of the firm's equity, in the three days around the announcement of the acquisition.
Class 1	Dummy variable: 1 for Class 1 acquisitions, 0 otherwise.
Deal characteristics	
Stock (dummy)	Dummy variable: 1 for at least partially stock financed deals, 0 otherwise.
All cash (dummy)	Dummy variable: 1 for purely-cash financed deals, 0 otherwise.
Private (dummy)	Dummy variable: 1 for private targets, 0 otherwise.
Public (dummy)	Dummy variable: 1 for public targets, 0 otherwise.
Hostile (dummy)	Dummy variable: 1 for hostile deals, 0 otherwise.
Industry activity	Number of target firms with the same first three-digit SIC code acquired each year.
Cross border (dummy)	Dummy variable: 1 for non UK targets, 0 otherwise.
Merger (dummy)	Dummy variable: 1 for mergers, 0 for acquisitions.
Diversifying (dummy)	Dummy variable: 1 if bidder and target do not share a Fama-French industry, 0 otherwise.
Acquirer characteristics	
Firm size	Log of book value of total assets.
Tobin Q	Ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity.
Free cash flow	Operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets.
Leverage ratio	Book value of long-term debt and short-term debt divided by the market value of total assets.
Class tests	
Relative size	Deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement.
Relative gross assets	Total assets of the target divided by total assets of the acquirer
Relative profits	Pre tax income of the target divided by pre tax income of the acquirer
Relative gross capital	(Deal value plus liabilities of the target) divided by (market capitalization of the acquirer plus liabilities of the acquirer

Financial Services Authority Listing Rules Class Tests

Class tests			
1G	This Annex sets out the following *class tests*:		
	(1)	the gross assets test;	
	(2)	the profits test;	
	(3)	the consideration test; and	
	(4)	the gross capital test.	
The Gross Assets test			
2R	(1)	The assets test is calculated by dividing the gross assets the subject of the transaction by the gross assets of the *listed company*.	
	(2)	The gross assets of the *listed company* means the total non-current assets, plus the total current assets, of the *listed company*.	
	(3)	For:	
		(a)	an acquisition of an interest in an undertaking which will result in consolidation of the assets of that undertaking in the accounts of the listed company; or
		(b)	a disposal of an interest in an undertaking which will result in the assets of that undertaking no longer being consolidated in the accounts of the *listed company*;
		the gross assets the subject of the transaction means the value of 100% of that undertakings assets irrespective of what interest is acquired or disposed of.	
	(4)	For an acquisition or disposal of an interest in an undertaking which does not fall within paragraph (3), the gross assets the subject of the transaction means:	
		(a)	for an acquisition, the consideration together with liabilities assumed (if any); and
		(b)	for a disposal, the assets attributed to that interest in the listed companys accounts.
	(5)	If there is an acquisition of assets other than an interest in an undertaking, the assets the subject of the transaction means the consideration or, if greater, the book value of those assets as they will be included in the *listed company's* balance sheet.	
	(6)	If there is a disposal of assets other than an interest in an undertaking, the assets the subject of the transaction means the book value of the assets in the *listedcompany's* balance sheet.	
3G	The *FSA* may modify paragraph 2R to require, when calculating the assets the subject of the transaction, the inclusion of further amounts if contingent assets or arrangements referred to in LR 10.2.4 R (indemnities and similar arrangements) are involved.		
The Profits test			
4R	(1)	The profits test is calculated by dividing the profits attributable to the assets the subject of the transaction by the profits of the *listed company*.	
	(2)	For the purposes of paragraph (1), profits means:	
		(a)	profits after deducting all charges except taxation; and
		(b)	for an acquisition or disposal of an interest in an undertaking referred to in paragraph 2R (3)(a) or (b) of this Annex, 100% of the profits of the undertaking (irrespective of what interest is acquired or disposed of).
The Consideration test			
5R	(1)	The consideration test is calculated by taking the consideration for the transaction as a percentage of the aggregate market value of all the ordinary shares (excluding *treasury shares*) of the *listed company*.	
	(2)	For the purposes of paragraph (1):	
		(a)	the consideration is the amount paid to the contracting party;
		(b)	if all or part of the consideration is in the form of *securities* to be traded on a market, the consideration attributable to those *securities* is the aggregate market value of those *securities*; and
		(c)	if deferred consideration is or may be payable or receivable by the *listed* company in the future, the consideration is the maximum total consideration payable or receivable under the agreement.
	(3)	If the total consideration is not subject to any maximum (and the other class tests indicate the transaction to be a *class 2 transaction*) the transaction is to be treated as a *class 1 transaction*.	
	(3A)	If the total consideration is not subject to any maximum (and the other class tests indicate the transaction to be a *class 3 transaction*) the transaction is to be treated as a *class 2 transaction*.	
	(4)	For the purposes of sub-paragraph (2)(b), the figures used to determine consideration consisting of:	
		(a)	*securities* of a *class* already *listed*, must be the aggregate market value of all those *securities* on the last *business day* before the announcement; and
		(b)	a new *class* of *securities* for which an application for *listing* will be made, must be the expected aggregate market value of all those *securities*.
	(5)	For the purposes of paragraph (1), the figure used to determine market capitalisation is the aggregate market value of all the ordinary *shares* (excluding *treasury shares*) of the *listed company* at the close of business on the last *business day* before the announcement.	
6G	The *FSA* may modify paragraph 5R to require the inclusion of further amounts in the calculation of the consideration. For example, if the purchaser agrees to discharge any liabilities, including the repayment of inter-company or third party debt, whether actual or contingent, as part of the terms of the transaction.		

	The Gross Capital test			
R	1)	The gross capital test is calculated by dividing the gross capital of the company or business being acquired by the gross capital of the *listed company*.		
	2)	The test in paragraph (1) is only to be applied for an acquisition of a *company* or business.		
	3)	For the purposes of paragraph (1), the gross capital of the *company* or business being acquired means the aggregate of:		
		a)	the consideration (as calculated under paragraph 5R of this Annex);	
		b)	if a *company*, any of its *shares* and *debt securities* which are not being acquired;	
		c)	all other liabilities (other than current liabilities) including for this purpose minority interests and deferred taxation; and	
		d)	any excess of current liabilities over current assets.	
	4)	For the purposes of paragraph (1), the gross capital of the *listed company* means the aggregate of:		
		a)	the market value of its *shares* (excluding *treasury shares*) and the issue amount of the *debt security*;	
		b)	all other liabilities (other than current liabilities) including for this purpose minority interests and deferred taxation; and	
		c)	any excess of current liabilities over current assets.	
	5)	For the purposes of paragraph (1):		
		a)	figures used must be, for *shares* and *debt security* aggregated for the purposes of the gross capital percentage ratio, the aggregate market value of all those *shares* (or if not available before the announcement, their nominal value) and the issue amount of the *debt security*; and	
		b)	for*shares* and *debt security* aggregated for the purposes of paragraph (3)(b), any *treasury shares* held by the *company* are not to be taken into account.	
	Figures used to classify assets and profits			
R	1)	For the purposes of calculating the tests in this Annex, except as otherwise stated in paragraphs (2) to (6), figures used to classify assets and profits, must be the figures shown in the latest published audited consolidated accounts or, if a *listed company* has, or will have, published a preliminary statement of later annual results at the time the terms of a transaction are agreed, the figures shown in that preliminary statement.		
	2)	If a balance sheet has been published in a subsequently published interim statement then gross assets and gross capital 2should be taken from the balance sheet published in the interim statement.		
	3)	a)	The figures of the *listed company* must be adjusted to take account of subsequent transactions which have been notified to a *RIS* under LR 10.4 or LR 10.5.	
		b)	The figures of the target company or business must be adjusted to take account of subsequent transactions which would have been a *class 2 transaction* or greater when classified against the target as a whole.	
	4)	Figures on which the auditors are unable to report without modification must be disregarded.		
	5)	When applying the *percentage ratios* to an acquisition by a *company* whose assets consist wholly or predominantly of cash or short-dated *securities*, the cash and short-dated *securities* must be excluded in calculating its assets and market capitalisation.		
	6)	The principles in this paragraph also apply (to the extent relevant) to calculating the assets and profits of the target company or business.		
G		The *FSA* may modify paragraph 8R(4) in appropriate cases to permit figures to be taken into account.		
		Anomalous results		
0G		If a calculation under any of the *class tests* produces an anomalous result or if a calculation is inappropriate to the activities of the *listed company*, the *FSA* may modify the relevant *rule* to substitute other relevant indicators of size, including industry specific tests.		