# Learning from Your Investors:

Can the Geographical Composition of Institutional Investors Affect the Chance of Success in International M&A Deals?

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**Research Findings/Insights:** We produce new evidence on whether management which is keen to make foreign acquisitions can benefit from consultation with information-intensive institutional investors who have expertise in the target foreign markets. This research suggests that, in such instances, management should recognise the benefit of effective two-way communication before embarking on such costly strategies. Consistent with theoretical literature, we propose that this can be explained by the fact that complex valuation information is dispersed among many economic agents and management may only have limited access to such data. This research shows that the likelihood of both cross-border deal completion and medium-term cross-border deal success through time depends upon management learning from and getting the support of key institutional investors with regional (foreign) expertise.

**Theoretical/Academic Implications:** The theoretical information economics model presented by Dye and Sridhar in 2002 states that the information flow between management and capital markets should be viewed as two way. This study offers empirical evidence in support of their theory.

**Practitioner/Policy Implications:** This study offers insights into the positive effect of establishing a proactive investor relations programme for the recruitment of dedicated foreign institutional investors before embarking on cross-border M&A. The results indicate that management should closely monitor the share register and identify those investors who are transient and those who are, in contrast, dedicated. Attention then needs to be directed to establishing effective communication with the dedicated investors with regional expertise.

**Keywords: Cross-Border M&A, Institutional Investors, Investor Relations, Financial Geography**

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## 1. Introduction

The recently published UK Stewardship Code (July 2010) stresses the importance of institutional investors recognising their responsibility for exercising effective corporate governance and communicating this to retail investors. For instance, those institutional investors who wish to be seen as complying with the code need to give a clear indication of how they approach corporate governance issues across all potential portfolio constituents and how they determine their voting strategy at AGMs and EGMs. For the most part, the recommendations of the code have received widespread (apparent) acceptance and a significant number of institutional investors have issued a 'Statement on Compliance' which adheres to the new code. However, Winter (2011) and Wong (2010) make clear, that while the Stewardship Code makes sense for institutional investors who take an active long-term stewardship position, at the same time large portfolio index tracking funds are becoming ever more important, which means that increasing numbers of institutional investors may choose not to be active. In fact, they argue that the situation may be worse: if an institutional investor chooses to be underweight in a stock it can be contrary to their financial interests to intervene – through voting and or engagement– to improve the performance of the company because the investor can benefits in a relative (fund performance) sense compared to those competing institutional investors who are not underweight if the stock subsequently performs poorly. Thus, a set of related potential problems with the Code encompass it's lack of attention to fund manager incentive systems, a recognition that there is significant plurality in the desire of institutional investors to take active positions and, specifically, that this can be driven by very good economic reasons and not an unconscious lack of effort or attention.

In response, this research suggests that a key to understanding the potential efficacy of institutional stewardship is first to separate data on institutional investors into distinct classes. In addition, rather than assume on a priori grounds that there are de-facto gains from active involvement, we seek to identify if there is any evidence to support such claimed gains. We do this by designing an experiment to test for competing sources of potential gains from involvement during cross-border M&A, notoriously complex transactions.

In this respect, it has long been recognised (see, for instance, Jennings and Mazzeo 1991) that when an initial M&A bid is issued, the management of the potential acquirer needs to be cognisant of the stock market reaction to the initial announcement. For instance, shortly after Hewlett Packard withdrew from a much touted potential deal with PwC, the CEO, Carly Fiorina,[1] stated "I recognise that a number of you verbalised your concerns over the past few weeks, and others simply voted with their positions in the stock. ... I realise you made some valid points." Expressed more generally, Dye and Sridhar (p.389, 2003) have argued that "The existing literature … primarily views the information flows between firms and the capital market as one way — from firms to the capital market. This paper is premised on information flows also occurring from capital markets to firms…" Dye and Sridhar present a theoretical information economics model where capital markets have an informational advantage over management and, by assumption, since information flows are highly dispersed, management cannot simply ask one or two investors for advice but instead can benefit from waiting to see what the overall market reaction is.

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[1]Recorded on numerous press wires at the time, including: *Financial Post* (*National Post*), 14 November 2000, 'Hewlett shelves PWC deal' by David Akin, with files from Simon Avery.

Early studies on how management could learn from the market during M&A deals usually focused upon narrow window stock price reactions and typically simply asserted that the market has informational advantage without providing any institutional detail on why such an advantage may exist. Two of the goals of this research are to develop a framework which moves away from these narrow (short-term, volatile) window assessments and also, using insights gained from the emerging field of 'financial geography' such as Malloy (2005), to provide some greater institutional richness in explaining why other specialist economic agents, besides management, may have valuable informational advantages. In such a setting, it becomes apparent why management may gain from consulting and learning from such specialists.

That is, this research starts by considering the important issue of whether management can learn from other knowledgeable market participants, but differs critically from earlier research by arguing that:

- narrow window stock price reactions around announcements may not signal what market participants believe to be the strategic net benefits of an M&A deal since observed trades (in a narrow window around the initial bid announcement) may simply reflect short-term beliefs that an opportunity exists to make profitable stock trades (short-termism).
- the market as a whole contains a very varied mix of investors, some of whom are only transient and do not form expectations about deal success since their investment time frame is measured in minutes or less (volatility trading versus fundamentals trading).
- going to the market by launching a takeover bid may be an extremely expensive way to 'gather' information from the market and instead, given that it is the case that the shareholdings of most public companies are held in a concentrated fashion by a small set of large institutional investors with access to detailed information, consulting these key information-rich investors (knowledge-intensive institutional investors) may be a superior way for management to learn.
- in contrast to earlier studies which typically do not explain 'why' market participants may have an informational advantage, we focus here[2] on the recently expanding area of financial geography, in which the location of information-producing (sell side analysts) or -gathering (institutional investors) agents relative to a foreign target takeover company explains in part why they may have an informational advantage (local informational complexity).

To summarise, research on the value creation of M&A deals usually implicitly assumes that when prices of the target and or acquirer rise, this reflects the fact that investors that have superior information have voted with their wallets. However, for a deal as potentially complex as a cross border transaction, assuming omniscience for all investors may be a heroic assumption to make. For instance some high frequency traders may only be concerned about returns over a few seconds after the deal is announced rather than the achievable results from the merger determined over the next few months or years. Since the principal focus of this research is upon subsequent financial performance of M&A our contribution is to consider only the investment behaviour of those investors most likely to have conducted well thought out research about the future performance of a deal. By excluding other types of investors who are not interested in such medium term performance, we are able to more

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[2] We recognise that geographic proximity is likely to be only one reason why informational advantages may exist.

directly test whether regional expertise on potential future cross border deal is associated with subsequent deal success.

## 2. Literature Review

We now review each of these inter-related issues in turn. An early interesting experiment to test how investors differ in their response to the release of corporate news was conducted by Bushee (1998). In that research, he developed a classification scheme for identifying the trading patterns of institutional investors. The three-way classification which he adopted was: dedicated, transient or quasi indexers. Next, he focused his study upon the institutional investor holdings of R&D-intensive companies. The rationale for this is that R&D expenditure could always be cut if companies' management were under pressure from investors to meet earnings targets (analyst consensus forecast). He reported that if the institutional investor base of a company was predominantly dedicated, then R&D expenditure was not cut and the converse if, in contrast, the investor base was predominantly transient. What the Bushee research suggests is that stock market reactions and their resultant impact on strategic policy (such as R&D investment) depend critically upon the objectives of investors. Thus, we suggest one must take great care before asserting that the market knows best (as evidenced by narrow window stock price reactions) if the strategic goals of the organisation are medium or long term in nature and the predominant composition of the share register is transient investors with short-term profit objectives.[3]

The importance of making a distinction between short-(transient) and long-term (dedicated) investors, and the difference in their trading objectives, is even more apparent when specifically considering M&A deals. A short-term investment strategy of M&A arbitrage, sometimes called risk arbitrage, is based on the potential spread gained between either a) the price of the target versus the bidding price or b) the long trade in the target shares versus the short trade in the bidder shares. Even though there is most activity in the shares of the target, there will be a significant number of traders taking positions in the acquirer shares, often shorting as a hedging strategy. This class of trading strategies is not based upon fundamental analysis but solely on the traders' assessment of the likelihood of short-term deal completion. The extent to which such a transient investor embarking on these sorts of trades causes short-term movements in stock prices tells us little about the medium- or long-term fundamental rationale for a specific M&A deal. This suggests that when attempting to appraise the potential strategic benefits of M&A deals, it is important to separate and differentiate the reactions of the various different classes of investor.

More generally, Chen, Harford and Li (2007) argue that all institutional investors "face a cost-benefit analysis of monitoring versus trading, where monitoring includes both information gathering and efforts to influence management. Monitoring is distinguished from trading by both the type of information gathered (long-term versus short-term) and the effort to influence management rather than to simply trade on that information." Given that senior management regularly meet institutional investors – particularly those who have a record of staying on the stock register – when the latter have conducted 'deep' research, they are more likely to be able to ask informed questions of management and open up effective communications. In addition, consistent with the principles in Dye and Sridhar (2003),

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[3]See also Gietzmann (2006).

management may value the expertise and research of dedicated long-term institutional investors who investigate a small, highly focused group of related companies. To illustrate how some institutional investors explicitly try to build up informational advantage and expertise, Holland (2006), by conducting one-to-one research interviews, documents how certain institutional investors endeavour to "acquire a special information edge by directly collecting information in private from their investee companies. They sought to combine this private information with public information to create a knowledge advantage. This reduced the effects of ignorance based on limited public sources alone." Clearly, institutional investors have to be mindful of RegFD (or equivalent) and so what Holland calls private information needs to be clarified. In his research, he refers to the "mosaic process" by which investors combine the use of publicly released information with private analysis, such as peer group comparisons and alternative models of the valuation of intangibles. That is, what Holland refers to as private information is the active combining of public information within proprietary valuation models often based upon peer group or industrial sector analysis. To summarise, there is clear evidence to suggest that dedicated institutional investors gather significant amounts of information to formulate private valuation models (based in part on corporate M&A opportunities) for companies and that, given their overview of specific sectors, these sorts of investor can be aptly referred to as what Chen et al. call "specialist monitoring" investors. These models are of value to management and, clearly, an important issue is how such important information may flow from dedicated investors to management. Holland's (2006) careful case analysis gives us some insights into how these complex information flows may take place.

The recently emerged area of financial geography can provide some insights into the potential sources of the specialist monitoring skills of dedicated investors. Huberman (2001) looked at regional Bell-operated companies and showed that investors tended to prefer to invest in local Bell firms rather than those in other regions and, in a similar fashion, Coval and Moskowitz (2001) found that US institutional investors exhibited a strong preference for locally headquartered firms in their domestic portfolios. More recently, Uysal et al. (2008) examined the impact of geographical proximity on the acquisition decisions of US companies and found that "acquirer returns in local transactions were more than twice that in non-local transactions". Bae et al. (2008) suggest that local analysts have a significant informational advantage over foreign analysts and base this conclusion on data collected in a large sample of countries. They argue that a plausible explanation for their ability to identify a local advantage "is that local analysts have better access to information because they can talk to firm representatives in person and observe what goes on in firms directly."

The research closest in focus to ours is the work of Ferreira, Massa and Matos (2009). In that study, the authors also look at cross-border M&A activity. They show that "foreign institutional ownership increases the probability that a merger deal is cross-border, successful…. This relation is stronger in countries with weaker legal institutions and in less developed markets, suggesting some substitutability between local governance and foreign institutional investors. The results are consistent with the hypothesis that foreign institutional investors act as facilitators in the international market for corporate control; they build bridges between firms and reduce transaction costs and information asymmetry between bidder and target". However, their work does not differentiate between institutional investors' styles or motives and hence they mix monitors with traders and all intermediate styles.

Putting these themes together motivated us to choose to investigate whether M&A bidders benefit from the local knowledge of those institutional investors who can be characterised as dedicated knowledge-intensive monitors of companies rather than transient traders of stock. We assume that foreign (target market) low (or very low) turnover institutional investors will have informational advantages in their home market and so we refer to them as knowledge intensive institutional investors with regional expertise (Chen et al. 2007).

## 3. Hypotheses

The preceding discussion leads to the following two hypotheses on the link between M&A performance and the regional expertise of the immediately above identified knowledge-intensive institutional investors.

If performance is measured by the likelihood of deal completion, we have:

H1: The probability of foreign (target) deal completion is higher when knowledge-intensive institutional investors with regional expertise in the target region support the deal.

For the reasons explained above, we proxy knowledge-intensive institutional investors by those institutions whose investment style is classified as low or very low turnover.[4]

$$Probit(Deal\ outcome_i)$$
$$= \alpha$$
$$+ \beta_{H1}(\Delta\ in\ holdings\ of\ knowledge\ intensive\ institutional\ investors\ with\ regional\ expertise)$$
$$+ \beta_k * (control\ variables) + \varepsilon_i$$

Alternatively, if performance is measured by post deal performance, we have:

H2: Post-deal performance is better when knowledge-intensive institutional investors with regional expertise in the target region support the deal.

Following the standard approach in the literature, we will use subsequent buy-and-hold abnormal returns (BHAR) to assess performance.

$$Post\ deal\ performance\ of\ bidder\ (BHAR)_i$$
$$= \alpha$$
$$+ \beta_{H2}(\Delta\ in\ holdings\ of\ knowledge\ intensive\ institutional\ investors\ with\ regional\ expertise)$$
$$+ \beta_k * (control\ variables) + \varepsilon_i$$

To summarise: in order to confirm our hypotheses we need to show that both of the key knowledge-intensive institutional investor support coefficients are positive and statistically significantly different from zero, that is notationally:

$$\beta_{H1} > 0 \quad and$$
$$\beta_{H2} > 0$$

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[4] We use the Factset database classification as explained in The Sample section below.

We use the standard control variables found to be relevant to deal success - both in terms of deal completion and post-merger performance - in the M&A literature as follows:

## H1 Control variables – Deal completion

**Equity value of acquirer:** Ferreira et al. (2009) control for acquirer size, measured as the equity value of the company one year before the takeover announcement, in their analysis of the effect of institutional ownership on the likelihood of deal completion. In line with their study, we expect that the coefficient corresponding to this variable is positive and significant. We find that the equity value of the acquirer has a significant positive coefficient in our probit model of takeover completion.

**Pre-bid performance of acquirer:** Holl and Pickering (1988) examine the pre-bid performance of acquirers and demonstrate that acquirers which manage to complete deals tend to have better pre-bid performance. We use return on equity one year before the deal announcement to capture the acquirers' pre-bid performance. We expect this coefficient to be positive and significant and this expectation is confirmed by our model.

**Differences in national laws and regulations:** Rossi and Volpin (2003) show that the number of successful takeovers is substantially higher in countries with better shareholder protection and accounting standards. Since our sample only consists of cross-border deals in which the acquirer country is the UK and the target country is non-UK, it is possible that the likelihood of deal completion is influenced by regulatory differences between the target countries represented in our sample. In order to control for such effects, we have included measures of the quality of shareholder rights protection (proxied by both the original and revised anti-directors rights index introduced by La Porta et al. (1998) and revised by Spamann (2009)) and the creditor rights index developed by Djankov et al. (2007). In addition, we control for the level of geographic proximity between the target and acquirer countries. In line with previous studies, we expect this coefficient to be positive and significant. However, our results do not show any statistically significant relationship between the target countries' anti-directors rights indexes and the probability of takeover completion.

## H2 Control variables –Post-merger performance

**Acquirer debt capacity:** Bruner (1988) documents that when acquirers with high levels of unused debt capacity and cash purchase targets with the opposite features, this generates positive combined (acquirer and target) returns, confirming the fact that pre-bid performance is an important determinant of post-acquisition returns. We use the ratios of EBIT and EBITDA to interest expense on debt as well as the ratio of acquirer total debt to total assets in order to capture the debt capacity of acquirer companies. We expect this coefficient to be negative and significant. According to our results, this variable is negatively but not significantly related to acquirer post-merger performance.

**Target and acquirer industry relatedness:** According to Moeller and Schlingemann (2005) and Martynova and Renneboog (2006), a high degree of industry relatedness between the target and acquirer can positively influence the post-merger performance of acquirers and vice versa. We use dummy variables which capture the two-, three- and four-digit SIC (Standard Industry Classification) code relatedness between target and acquirer companies. In

line with previous empirical findings and our expectations, the two-digit SIC relatedness dummy has a positive albeit insignificant coefficient in one of our models.

**Deal type is tender offer:** Theoretically, since tender offers are primarily hostile and financed with cash, these deal types should generate more post-merger value for bidders. Empirical evidence suggests that companies which participate in tender offers perform better than those which participate in mergers (Moeller and Schlingemann, 2005). We use a dummy variable to distinguish between tender and non-tender offer deals. As expected and confirmed by prior studies, this variable has a positive coefficient in our model, however it is not statistically significant.

**Level of cash of acquirer:** According Martynova and Renneboog (2006), bidders with high cash levels tend to experience worse post-merger performance. We use the ratio of cash and short-term investments to total assets in order to capture the effect of this variable. We expect this variable to have a negative and significant coefficient in our model. The regression results show that the level of cash of the acquirer is negatively but not significantly related to post-acquisition performance.

**Acquirer share turnover:** It is expected that the higher the degree of information asymmetry between acquirer company management and shareholders, the poorer the long-term post-merger performance of acquirer companies. In line with Ferreira et al. (2009), we control for this effect by measuring the share turnover of acquirers as stock market trading volume divided by the number of shares outstanding. We expect that this variable will be positively and significantly related to our measure of bidder performance. The regression analysis shows a positive but not significant coefficient.

**Differences in national laws and regulations:** Martynova and Renneboog (2009) develop the so-called positive spill-over by law hypothesis, according to which the corporate governance regulations of the acquirer are imposed on the target in full takeovers (when the bidder is from strong shareholder protection-oriented country). This can have a positive effect on the post-merger returns experienced by acquirer companies. Since our sample only consists of cross-border deals in which the acquirer country is the UK and the target non-UK, it is possible that post-merger performance is affected by regulatory differences between the target countries represented in our sample. In order to control for such effects, we have used the same control variable as that used in the analysis of the likelihood of deal completion. We expect that this variable will have a negative and significant relationship to bidder post-acquisition performance and that the greater the disparity between target and acquirer shareholder protection, the greater the scope for realising synergies from strengthening the quality of the corporate governance of the target. According to the results from the regression analysis, this variable has a negative albeit not significant coefficient.

## 4. The Sample and the Measure of Regional Expertise

The sample of M&A deals is collected from SDC Platinum. We include only cross-border deals, which we define as those in which the target's domicile nation is different from that of

the bidder's ultimate parent.[5] The ultimate parent of the bidder, henceforth referred to as the acquirer, also has to be publicly listed and registered in the UK.

Since we want to focus the study on deals which are deemed important enough to trigger significant interest from institutional investors, we apply a threshold restriction of 25% transaction value to acquirer market value.[6] This is consistent with the consideration test threshold which classifies a transaction as Class 1, i.e. triggering a shareholder vote, according to the listing rules published by FSA.[7]

In addition, we impose the following restrictions on the final sample of M&A bids:

- We include deals which are classified as either completed or withdrawn, i.e. all rumoured or pending bids are excluded.
- We exclude all deals where the acquirer is a financial sponsor.

The final restrictions applied are driven by the availability of share register information. We only include deals on which there is information available about the ownership of the acquirer for the relevant period around the announcement. In addition, since Factset only supplies share registers from the beginning of 2002, our final sample covers deals announced between 1 January 2002 and 31 December 2010. The final bid sample consists of 45 deals, of which five were withdrawn. Table 1 provides a detailed description of the sample restrictions and the order in which they were imposed. The final sample size is small in absolute numbers principally because we impose the UK Class 1 requirement of twenty-five per cent. The reason we apply this threshold is so that we cannot be accused of focusing on institutional investor holdings which change but are of no concern to management. In our final sample, management will have always needed to get approval by vote to proceed with the transaction.

It should be noted that the limited size of our final sample could potentially bias the findings of our study. For this reason, we compared the characteristics of the final 45-deal sample to: i) the characteristics of the entire sample of 143 deals announced on or after 1 January 2002 and ii) the sample of excluded deals (i.e. 143 – 45 deals). Table 2 presents the average and median financial characteristics of these different samples in terms of size, profitability, efficiency, leverage and liquidity as well as the results of average and median equality tests which were used in order to compare the different samples. Panels A and B of the table demonstrate that the sample of 45 deals which is used for the study analysis consists of larger, more profitable acquirers. In addition, out of all the acquirers which were excluded from the full sample, there are no bidders with total assets greater than the average of the full 143-deal sample. That the sub-sample is skewed towards larger companies is to be expected as Factset, the database used to source the company share register data, is more likely to collect information from larger firms with more easily accessible share register data. The fact

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[5] In most transactions, the acquirer is also the ultimate parent but there are some cases in which the two are separate entities. These are usually structured as an acquisition of the target by a subsidiary, often domiciled in the same country as the target, of the ultimate parent. Thus,in the end, the ownership lies in the hands of the ultimate parent's shareholders. There are a few instances in the database in which the acquirer is a foreign publicly-listed entity, although none in our final sample.

[6] The acquirer's market value is obtained at four weeks prior to the announcement of the deal in order to exclude any reaction in the announcement run-up period.

[7] FSA Handbook, Release 113, May 2011, pp 146 and 161.

that the sample used for the analysis comprises larger and more profitable firms presents a potential bias in our results. In order to eliminate this, we have explicitly controlled for the degree of acquirer profitability in the regression analysis of acquirer post-merger success by including acquirer ROE as an independent variable. In terms of liquidity, leverage and efficiency, there are no consistent or statistically significant differences between the three different samples.

The variable which we have introduced to measure the reaction of Knowledge-Intensive Institutional Investors with Regional Expertise is new to the literature and so we now spend some time explaining how we measure this variable.

As in Ferreira, Massa and Matos (2009), we collect information on the identity of the institutional investors for the acquirer companies by referring to the Factset Lionshares database of share registers. However, in contrast to Ferreira et al., we also exploit the fact that Factset, using historic information and additional market intelligence, classifies the investment turnover styles of all institutional investors as one of the following five types: Very Low, Low, Medium, High or Very High Turnover. Consistent with Bushee (1998) and Chen et al. (2007), we proxy Knowledge-Intensive Institutional Investors by those investors classified by Factset as having Low or Very Low Turnover styles.

Having identified the set of Knowledge-Intensive Investors, we next measure the extent to which these investors provide support to an M&A deal by looking at the change in their shareholdings in the acquiring company between the period from one year prior to the announcement to the end of the month following it.[8] For example, Rio Tinto announced the acquisition of Alcan on 12 July 2007. The change in ownership is measured as the change from 31 August 2006 to 31 July 2007.

In addition to identifying their turnover style and change in investment over the critical deal period, we also collect information on the regional expertise of the Knowledge-Intensive Investors. Again, using the detailed categorisation of institutional investors provided by Factset, we proxy those investors who have regional expertise by those for which Factset records the 'global region' of investment as overlapping with the M&A target's region of domicile.[9]

In the first stage of our analysis we use an exhaustive list of all controls found in the M&A literature. However, since our sample size is relatively small, we have reduced the bank of control variables on the basis of reference to a correlation analysis (see footnote 10).

We recognise that the inclusion of some of our control variables might present statistical problems. For example, the inclusion of ROE as a control variable together with firms' size might result in an endogeneity problem as studies typically use firms' size as one of the determinants of ROE. In order to see whether the statistical significance of our main variable of interest – the change in holdings of knowledge-intensive institutional investors with regional expertise – is preserved after treating the model for endogeneity problems, we also apply an instrumental variable estimation procedure to our model. Specifically, we estimate

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[8] Note that for some acquirers only quarterly data is available, however the same methodology is applied.

[9] Factset uses the address of the registered head office to identify an institutional investor's regional home.

Acquirer $ROE_{t-1}$ by regressing it on its past values as of one and two years before the year of interest. We then re-estimate our probit regression with the use of the instrumented Acquirer $ROE_{t-1}$. The results from the instrumental variable approach demonstrate that the effect of the change in holdings of knowledge-intensive institutional investors with regional expertise is positive and significant, which is consistent with the results from our original model.

Also, the relatively large number of control variables used in our model of bidder post-merger performance, in relation to the relatively small sample size, might result in multicollinearity. We have performed a number of tests to address these potential issues and the results presented in this paper do not suffer from any of the aforementioned problems.[10]

## 5. Results

In order to determine the importance of investors' support for corporate decision-making and financial performance, we test whether changes in institutional investors' stock ownership of the acquirer around the time of the announcement can provide signals about the likelihood of deal completion as well as the merits of the deal, as measured by the ex-post shareholder performance of the acquirer. More specifically, we perform two banks of tests. First, we test to see if the change in ownership holdings measured from six months pre-announcement to the end of the quarter following the announcement is positively associated with the probability of bid outcome success (deal completion) in a standard probit model specification. Next, we test to see if the positive association between changes in ownership holdings also hold for post-merger performance. We test whether the strength of these effects is contingent upon the investment style and regional expertise of institutions.

### 5.1 Deal completion

In order to examine the effect of institutional investors on the probability of deal completion, we employ probit regression analysis of the form:

$$Probit(Deal\ Outcome_i)$$
$$= \alpha + \beta_j$$
$$* (\Delta\ in\ holdings\ of knowledge\ intensive\ institutional\ investors\ with\ regional\ expertise)$$
$$+ \beta_k * (control\ variables_k) + \varepsilon_i$$

Table 3 shows the results from the regression analysis. It should be stressed that the change in shareholdings analysed here is from the long-term institutional investors who, according to Chen et al. (2007), invest in companies with the objective of actively monitoring and influencing managerial decisions. The results suggest that when the investors with local expertise (stemming from geographic proximity to the target) signal their support for a deal through changes in their holdings around the time of the takeover bid announcement, this is a

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[10]Specifically, we have estimated the correlation coefficient between the independent variables used in our model illustrated in Appendix A. The results show that none of the independent variables used in our current model are significantly correlated. In addition, we estimate the variance inflation factors (VIFs) corresponding to our model of acquirer post-merger performance, illustrated in Appendix B. In line with the rules of thumb typically applied by analysts, none of the VIFs are individually greater than ten and the average VIF is close to one.

positive indicator of the outcome of the bid (completed versus failed).This finding for cross border deals is thus in line with previous studies considering alternative settings in which there may exist advantages of geographic proximity and knowledge of country-specific factors.

Our analysis suggests that long-term institutional investors with regional expertise could act as a mechanism which facilitates the acquisition of soft information and evaluates this type of information to help cross-border bidders make better decisions with regards to the specific M&A deal. The presence of long-term investors with regional expertise could help international bidders (i.e. bidders with a country of domicile different to that of the target) and reduce or completely eliminate any informational advantages that local acquirers may possess, providing that there is in fact some information flow between capital markets and management as opposed to only between management and capital markets.

### 5.2 Post-Merger Performance

Acquirer post-merger performance is measured on the basis of share price performance.[11] We measure the buy-and-hold abnormal returns (BHAR) experienced by acquirers over a 24-month event window starting from ten months prior to announcement to capture the run-up period. The BHAR approach to measuring abnormal returns has been widely used in studies involving share price performance (see, e.g., Ikenberry et al. 1995; Barber and Lyon 1997; and Mitchell and Stafford 2000). Mitchell and Stafford (2000) define BHAR as "the average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar non-event firms." An advantage of using BHAR is that this approach to measuring company share price performance is closer to investors' actual investment experience compared to the periodic rebalancing which other approaches to share price performance analysis involve.

We adjust the BHAR by subtracting the FTSE All-Share index returns for the corresponding period and calculate the equally-weighted returns.

In order to investigate further the influence of institutional shareholders' support on the post-announcement performance of the bidders, we perform regression analysis of the form:

$$
\begin{aligned}
Post\ deal\ performance\ of\ bidder_i \\
= \alpha \\
+ \beta_j (\Delta\ in\ holdings\ of\ knowledge\ intensive\ institutional\ investors\ with\ regional\ expertise) \\
+ \beta_k * (control\ variables) + \varepsilon_i
\end{aligned}
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Table 4 shows the results from the regression analysis. Using the BHAR performance of bidders adjusted to the FTSE All-Share index benchmark, we tested the relationship between the acquirers' post-merger performance over an event window of 24 months and the initial

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[11]Note that the BHAR analysis uses the Total Returns of a company, i.e. it includes the share price appreciation or depreciation as well as the return from reinvesting the paid dividends.

support of the institutional investors.[12] The results indicate that there is a significant positive relationship between the support given by institutional investors with regional expertise and post-bid performance at the 24-month event horizon.

Similar to the analysis of deal completion, we find evidence to support Hypothesis 2. The statistically significant 24-month BHAR results indicate that this type of investor is knowledgeable about the merits of the deal as the support given by this specific investor group is positively associated with the post-merger performance of the acquirer. The fact that the low and very low turnover investor group has a positive association with the acquirer's post-merger performance is supported by the findings of Chen et al. (2007), who argue that independent, long-term institutional investors gather information about the overall quality of firm management and their ability to make better or worse decisions. Independent long-term institutional investors also gather information about the scope of influencing the actions of firm managers and invest in those companies in which the benefits associated with the quality of management and the opportunity to influence managerial decisions outweigh the costs of gathering information and monitoring these companies.

There is a different strand of literature which suggests that investors' tendency to over-invest in domestic assets is due to psychological factors, such as 'confidence in the familiar'. Kang and Stulz (1997) define confidence in the familiar as the propensity of investors to incorporate systematic biases in their expectations about the risk and return characteristics of assets with which they are familiar as opposed to those with which they are less familiar. Further research in support of these ideas is presented by Huberman (2001) and Li (2004). An interpretation of our results in light of this hypothesis would suggest that institutional investors with regional expertise display behaviour characterised by confidence in the familiar which drives them to influence the outcome of cross-border deals in which the target country is domiciled in their region of expertise. However, our results related to the long-term performance of bidders supported by investors with regional expertise leads to the rejection of this hypothesis as a potential explanation of our results.

The fact that there is a positive association between the post-merger performance of bidders with long-term investors with regional expertise who increase their holdings supports the idea that long-term investors with regional expertise are better positioned to gather information about individual investment projects such as cross-border deals. However, as per our results, the fact that there is a positive relationship between post-merger performance and the change in the shareholdings of long-term institutional investors with regional expertise suggests that these institutions are not simply driven by psychological factors such as confidence in the familiar, but that their actions are motivated by possession of superior knowledge.

## 6. Conclusion

This research provides empirical support for the theoretical contention of Dye and Sridhar that information should not just flow from management to the market but also from the market (interpreted here specifically as knowledge-intensive institutional investors with regional expertise) to management. Thus, another implication of this research is that

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[12] The significance and sign of these regression results was tested with alternative BHAR periods, such as from three and six months before the announcement of a deal to 24 months after, and the results hold throughout.

regulatory structures should be mindful of allowing effective two-way flows of information between management and knowledge-intensive institutional investors with regional expertise to flourish and maintaining that process. If not, more value-destructive foreign M&A activity could occur. In addition, as Dye and Sridhar suggest, management should start off by recognising that they have only limited expertise in assessing the potential of foreign markets and that they can benefit significantly from exchanging general strategic views with the types of informed investor whom we have identified above.

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Table 1: Sample Restrictions

| Description of Restriction | Restriction Order | Number of Deals | Median Deal Value ($ mil) | Median Market Value of Acquirer ($ mil) | Median Deal Value to Market Value | Percentage of Withdrawn Deals |
|---|---|---|---|---|---|---|
| The acquirer is listed on the London Stock Exchange, the acquirer nation is the United Kingdom and the acquirer market value is known. The deal is for control, cross-border and the deal status is either completed or withdrawn. | 1 | 3,863 | 21 | 1,435 | 1.6% | 1.8% |
| The ratio of deal value to market value of the acquirer is greater than or equal to 25%. | 2 | 294 | 128 | 255 | 46.6% | 5.4% |
| The acquirer is not a financial sponsor. | 3 | 284 | 120 | 246 | 45.4% | 5.3% |
| The announcement date is 1 January 2002 or after. | 4 | 143 | 135 | 254 | 43.3% | 7.7% |
| There is information about the change in investor position (Low, Very Low and Region) and the 12-month total return. | 5 | 45 | 366 | 956 | 38.3% | 11.1% |

Table 2: Sample Descriptives

Panel A: Averages

| Sample | Total Assets | Revenue | EBITDA | EBIT | Operating Margin | ROE | Current Ratio | Leverage | Asset Utilisation |
|---|---|---|---|---|---|---|---|---|---|
| All (143) - A | 20,354,081 | 3,425,874 | 628,225 | 353,428 | 3% | 7% | 3 | 19% | 0.91 |
| Sub-sample (45) - B | 57,270,515 | 7,192,419 | 1,478,602 | 834,011 | 9% | 14% | 2 | 20% | 0.88 |
| Excluded (98) - C | 1,476,359 | 1,063,803 | 109,351 | 57,069 | -0% | 2% | 3 | 18% | 0.93 |

Panel B: Medians

| Sample | Total Assets | Revenue | EBITDA | EBIT | Operating Margin | ROE | Current Ratio | Leverage | Asset Utilisation |
|---|---|---|---|---|---|---|---|---|---|
| All (143) - A | 266,586 | 247,290 | 44,232 | 16,342 | 7% | 8% | 1 | 16% | 0.78 |
| Sub-sample (45) - B | 1,287,068 | 651,218 | 166,323 | 65,930 | 9% | 12% | 2 | 10% | 0.85 |
| Excluded (98) - C | 189,879 | 115,065 | 23,638 | 6,470 | 7% | 5% | 1 | 18% | 0.72 |

Panel C: Average and Median Comparison Test Results

| Type of Test | Total Assets | Revenue | EBITDA | EBIT | Operating Margin | ROE | Current Ratio | Leverage | Asset Utilisation |
|---|---|---|---|---|---|---|---|---|---|
| Mean comparison Tests A vs B | - | - | - | - | - | - | - | - | - |
| Mean comparison Tests B vs C | (+)* | *** (+) | ** (+) | ** (+) | - | ** (+) | - | - | - |
| Median comparison Tests A vs B | - | * (-) | - | - | - | - | - | - | - |
| Median comparison Tests B vs C | (+)* | *** (+) | * (+) | ** (+) | - | * (+) | - | - | - |

Note: 'All (143)-A' refers to the sample of all deals (143 in total) which were announced on or after 1 January 2002. 'Sub-sample -B' refers to the final sample of deals (45 in total) used for the purposes of the analysis performed in this study. 'Excluded (98) -C' refers to the sample of deals which were excluded from the analysis due to alack of shareholder information in Factset. Company financials are obtained from Datastream and measured in thousands of US $. 'Operating Margin' is measured as operating income divided by revenue and calculated by Datastream; 'ROE' is measured in % terms and represents net income before preferred dividends less preferred dividend requirement divided by last year's common equity,and is calculated by Datastream; 'Current Ratio' is measured as current assets divided by current liabilities, and calculated by Datastream; 'Leverage' is measured as total debt divided by total assets; and 'Asset Utilisation' is measured as revenue divided by assets. The signs in parentheses(+/-) indicate the difference between the two groups of companies which are tested. * indicates the significance level testing the null hypothesis that the difference is equal to 0. Cells with '-' indicate a lack of statistical significance intheir respective comparison test.

Table 3: Analysis of the Probability of Deal Completion on the Basis of Investor Style

| Dependent variable: probability of deal completion | | |
|---|---|---|
| *Investor support variable:* | | |
| Change in holdings of knowledge-intensive institutional investors with regional expertise ($\beta_{H1}$) | | 7.050** |
| | p-value | (0.014) |
| *Control Variables:* | | |
| Equity value of acquirer$_{t-1}$ | 0.267* | |
| | p-value | (0.090) |
| Pre-bid performance of acquirer (ROE$_{t-1}$) | | -0.021** |
| | p-value | (0.021) |
| Differences in national laws and regulations (target anti-directors rights) | | 0.319 |
| | | (0.617) |
| Constant | | -1.481 |
| p-value | | (0.633) |
| Pseudo R2 | | 0.324 |
| Number of Observations | | 40 |

Note: The dependent variable is a dummy which equals 1 if the deal was completed and 0 otherwise. The independent variable is the change in shareholdings of investors with different investment styles over a period of six months before the deal announcement until the end of the first quarter afterwards. Significance levels are provided in parentheses.

Table 4: Regression Analysis of Effect of Investor Style on Post-merger Performance

| Dependent Variable: Buy-and-hold abnormal returns 24 months post-acquisition | | |
|---|---|---|
| *Investor Support Variable:* | | |
| Change in holdings of knowledge-intensive institutional investors with regional expertise($\beta_{H2}$) | | 2.009* |
| | p-value | (0.010) |
| *Control Variables:* | | |
| Acquirer debt capacity$_{t-1}$ | | -0.266 |
| | p-value | (0.606) |
| Target and acquirer industry relatedness | | 0.392 |
| | p-value | (0.255) |
| Level of cash of acquirer$_{t-1}$ | | -0.05 |
| | p-value | (0.306) |
| Acquirer share turnover | | 0.079 |
| | p-value | (0.907) |
| Differences in national laws and regulations (target anti-directors rights) | | -0.078 |
| | p-value | (0.884) |
| Deal type is tender offer | | 0.031 |
| | p-value | (0.952) |
| Constant | | 0.302 |
| | p-value | (0.765) |
| $R^2$ | | 0.356 |
| Number of observations | | 32 |

Note: The dependent variable is the BHAR performance 24 months post-announcement and the independent variable is the change in investor shareholdings of investors with different investment styles over a period of six months before the deal announcement until the end of the quarter afterwards. Significance levels are provided in parentheses.

Appendix A

Panel A: Correlations between the variables included in the analysis of acquirer post-acquisition performance

| | All-cash payment dummy | Change in holdings of knowledge-intensive institutional investors with regional expertise | Target and acquirer industry relatedness | Initial reaction hostile | Deal type is tender offer | Deal value to market value | Differences in national laws and regulations (target anti-directors rights) | Acquirer debt capacity$_{t-1}$ | Level of cash of acquirer$_{t-1}$ | Acquirer share turnover | Acquirer market to book ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All-cash payment dummy | 1 | | | | | | | | | | |
| Change in holdings of knowledge-intensive institutional investors with regional expertise | 0.132 | 1 | | | | | | | | | |
| Target and acquirer industry relatedness | 0.010 | 0.032 | 1 | | | | | | | | |
| Initial reaction hostile | (0.112) | 0.004 | (0.169) | 1 | | | | | | | |
| Deal type is tender offer | 0.194 | (0.060) | (0.110) | 0.3513** | 1 | | | | | | |
| Deal value to market value | (0.159) | (0.386)*** | (0.180) | 0.114 | 0.155 | 1 | | | | | |
| Differences in national laws and regulations (target anti-directors rights) | 0.093 | (0.209) | (0.139) | 0.065 | 0.122 | 0.298* | 1 | | | | |
| Acquirer debt capacity$_{t-1}$ | 0.126 | (0.148) | 0.1787 | (0.171) | 0.033 | (0.013) | (0.188) | 1 | | | |
| Level of cash of acquirer$_{t-1}$ | (0.165) | 0.088 | 0.280* | 0.088 | (0.040) | (0.211) | (0.071) | (0.451)*** | 1 | | |
| Acquirer share turnover | 0.107 | 0.081 | (0.112) | (0.004) | (0.152) | (0.095) | (0.205) | (0.140) | 0.086 | 1 | |
| Acquirer market to book ratio | 0.2138 | (0.070) | 0.144 | (0.025) | (0.042) | (0.078) | (0.386)** | 0.004 | 0.241 | 0.286* | 1 |

Panel B: Revised model of acquirer post-acquisition performance (treated for multi-collinearity)

| Dependent Variable: Buy-and-hold returns | |
|---|---|
| Change in holdings of knowledge-intensive institutional investors with regional expertise ($\beta_{H2}$) | 2.009** |
| Acquirer debt capacity$_{t-1}$ | -0.266 |
| Target and acquirer industry relatedness | 0.392 |
| Level of cash of acquirer$_{t-1}$ | -0.05 |
| Acquirer share turnover | 0.079 |
| Differences in national laws and regulations (target anti-directors rights) | -0.078 |
| Deal type is tender offer | 0.031 |
| Constant | 0.302 |
| R2 | 0.356 |
| Number of observations | 32 |

Appendix B

Panel A: Variance inflation factors of the independent variables used in the original model of post-acquisition performance

| Variable | VIF | 1/VIF |
| --- | --- | --- |
| Change in holdings of knowledge-intensive institutional investors with regional expertise ($\beta_{H2}$) | 2.7 | 0.371 |
| Acquirer debt capacity$_{t-1}$ | 3.29 | 0.304 |
| Level of cash of acquirer$_{t-1}$ | 2.84 | 0.352 |
| Acquirer market to book ratio | 2.45 | 0.409 |
| Deal type is tender offer | 2.2 | 0.455 |
| Target and acquirer industry relatedness | 1.79 | 0.558 |
| All-cash payment dummy | 1.74 | 0.573 |
| Initial reaction hostile | 1.54 | 0.649 |
| Deal value to market value | 1.52 | 0.659 |
| Differences in national laws and regulations (target anti-directors rights) | 1.52 | 0.660 |
| Acquirer share turnover | 1.39 | 0.718 |
| Mean VIF | 2.09 | |

Panel B: Variance inflation factors of the independent variables used in the model of post-acquisition performance with excluded collinear variables

| Variable | VIF | 1/VIF |
|---|---|---|
| Change in holdings of knowledge-intensive institutional investors with regional expertise ($\beta_{H2}$) | 1.31 | 0.764 |
| Differences in national laws and regulations (target anti-directors rights) | 1.42 | 0.706 |
| Deal type is tender offer | 1.41 | 0.712 |
| Level of cash of acquirer$_{t-1}$ | 1.34 | 0.748 |
| Acquirer debt capacity$_{t-1}$ | 1.33 | 0.754 |
| Acquirer share turnover | 1.2 | 0.836 |
| Target and acquirer industry relatedness | 1.11 | 0.899 |
| Mean VIF | 1.3 | |